National Institute on Drug Abuse

2005 Summer Research With NIDA for Underrepresented Minority Students

"Providing students with valuable drug abuse research experiences"

NIDA NATIONAL INSTITUTE ON DRUG ABUSE

NATIONAL INSTITUTES OF HEALTH

PROGRAM

Summer Research with the National Institute on Drug Abuse (NIDA) is a part of the Research Supplements for Underrepresented Minorities ("minority supplements") program. The minority supplements program encourages recipients to pursue careers in biomedical and behavioral research by providing them with opportunities to work with investigators in the field.

NIDA is pleased to announce the ninth annual Summer Research with NIDA program. This program is designed to introduce high school and undergraduate underrepresented minority students to drug abuse research through research placements with some of our most distinguished scientists. Students work with the investigators for 8 to 10 weeks during the summer. The experience may include formal courses, participation in meetings, data collection activities, data analysis, laboratory experiments, manuscript preparation, and library research. The program exposes students to drug abuse research and encourages them to pursue careers in biomedical and behavioral research. Since the program's inception in 1997, more than 370 students have gained valuable drug abuse experience, and more than 80 research sites have participated.

ELIGIBILITY

To be eligible for this program, applicants must be from a racial/ethnic group that is recognized as underrepresented in the fields of biomedical and behavioral science, including African Americans, Hispanics, American Indians/Alaska Natives, and Asians/Pacific Islanders. Applicants must be currently enrolled in high school or college and in good academic standing.

Applicants must be at least 15 years of age and **citizens or permanent residents of the United States**. Applicants under 18 years of age can be placed only at research sites within daily commuting distance of their home.

SCOPE OF SUPPORT

Students will receive stipends for the summer based on the rate agreed upon with each research site, not to exceed $8.50 per hour for undergraduate students (for a maximum stipend of $3,400 for 10 weeks) and $7.00 per hour for high school students (for a maximum stipend of $2,800 for 10 weeks).

In cases where students are placed at distant sites, investigators can request up to $2,500 for travel and per diem expenses. Assistance can be provided to students for costs associated with lodging. Students may need to work with investigators to locate lodging. If lodging is available at the research site, it is indicated in the site description.

APPLICATION PROCEDURES

Please review the opportunities listed in this brochure under the sections for Social Sciences and Life Sciences, and read the complete project descriptions at http://www.drugabuse.gov/pdf/sposummer.pdf. After reviewing the descriptions, indicate on the application form the three sites that best meet your research interests or experience. Submit a complete application form along with a transcript, two letters of recommendation, and a brief statement of your research career interest by March 22, 2005. Please refer to the application form for mailing information and other details.

NIDA
NATIONAL INSTITUTE ON DRUG ABUSE

2005 Summer Research With NIDA for Underrepresented Minorities

Application Form

Personal Information

Name: | Date of Birth:

Current Address:

Current Phone:

E-Mail:

Permanent Address:

Permanent Phone:

Ethnicity: | Sex: ❑ Male ❑ Female

U.S. Citizen or Permanent Resident? yes ❑ no ❑

Academic Information

School Presently Attending:

❑ High School ❑ College/University | ❑ Fr. ❑ So. ❑ Jr. ❑ Sr.

Major: | Minor:

GPA for Major: | Cumulative GPA:

Site Selections

Openings for summer research projects appear in two categories: Social Sciences and Life Sciences. Provide your top three choices, by number, in order of preference.

[1] ..... [2] ..... [3] .....

Please visit www.drugabuse.gov/pdf/sposummer.pdf for complete project descriptions.

Qualifications

Indicate your qualifications for the area of research you have chosen (Pay close attention to the **site's description and preferred student attributes**):

❑ I have read the project descriptions online and I meet the qualifications outlined in them.

Please Sign Here

Please attach the following items to this form:

1. **Transcript**. An unofficial transcript will be accepted initially; however, an official transcript must be submitted no later than March 22, 2005.
2. **Statement of Research Career Interest**. Submit a statement that describes your interest in drug abuse research, career plans, and educational plans beyond your undergraduate studies. Do not exceed one page.
3. **Two Letters of Recommendation**. Submit letters of recommendation from an advisor and/or your professors.

Applications must be received by March 22, 2005. Fax or mail applications to:

Flair Lindsey, Program Analyst
Special Populations Office
National Institute on Drug Abuse
6001 Executive Boulevard, Room 4216
MSC 9567
Bethesda, MD 20892-9567
(301) 443-0441 Office
(301) 480-8179 Fax
fl20t@nih.gov E-mail

Social Sciences

Social Sciences

Ideal for, but not limited to, students with majors/interests in psychology, sociology, anthropology, behavioral research, health psychology, social work, psychiatry, public health, and counseling

1

Investigator:	Nicholas Ialongo, Ph.D.
Institution:	Johns Hopkins University, Baltimore, Maryland
Research Area:	Prevention and Mental Disorders
Project Title:	N/A
Start Date, Program Length:	June 20, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking high school and undergraduate students with interest in careers in psychology, social work, and psychiatry; previous work with children and families is ideal

The Advanced Center for Interventions and Services Research, The Center for Prevention and Early Intervention, represents a collaborative effort of—

- Johns Hopkins University (JHU) Bloomberg School of Public Health
- JHU Center on Technology in Education
- Community partners in prevention and early intervention (the Baltimore City Public Schools System, Family League of Baltimore City, Baltimore Mental Health Systems, and the Maryland Department of Education)
- Researchers at Morgan State University, Pennsylvania State University, the University of California at Los Angeles, the University of Alabama, Columbia University, and Stanford University

The mission of the Center is to—

- Improve school-based preventive and early treatment interventions for children and adolescents by bridging epidemiologic intervention, services, and dissemination and training research through the development of a research structure and research strategies capable of evaluating the effectiveness and sustainability of promising and evidence-based interventions.
- Identify factors that inhibit or facilitate improved prevention and treatment practices and outcomes.
- Disseminate the knowledge gained to improve prevention and treatment research and dissemination and training practices.
- Develop within the collaborating community partners the capacity to carry out and disseminate state-of-the-art prevention and early intervention research and evaluations.

The Center has four core components—

- The Operations Core provides support to Center collaborators in the following areas; administration, biostatistics, economic analysis, clinical trials, assessment/evaluation, and dissemination and training.
- The Research Methods Core focuses on advances in biostatistics, economics, and computerized assessment in support of the Center's intervention initiatives.
- The Principal Research Core provides the structure and support for pilot and feasibility studies aimed at setting the state for elementary school-based, effectiveness of trials of promising and evidence-based prevention and early interventions and assessments.
- The Research Network Development Core focuses on the development of the infrastructure within the community partners for carrying out state-of-the-art prevention and early intervention research and evaluations.

Support of the Center will make it possible to strengthen and extend research initiatives aimed at evaluating the effectiveness of evidence-based, early preventive and treatment interventions for children and adolescents; and to disseminate research on the prevention and treatment of mental disorders in children and adolescents.

This site is one of four sites being sponsored by the Society for Prevention Research (SPR). Interns involved with an SPR site may have an opportunity to kick off their internship by attending the annual SPR conference in Washington, DC, May 25–27, 2005. This is an exciting opportunity to meet and learn from leading researchers in prevention science.

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Investigator:	Linda Dykstra, Ph.D.
Institution:	University of North Carolina at Chapel Hill, Chapel Hill, North Carolina
Research Area:	Behavioral Pharmacology
Project Title:	Opioid Analgesics: Pharmacological and Behavioral Factors
Start Date, Program Length:	June 6, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking high school and undergraduate students with majors in psychology or biology

This laboratory involves a willingness to conduct basic research with mice, learning to handle, inject, and run mice in behavioral procedures. Time will also be spent in data analysis. Students should have an interest in learning behavioral skills. They will join other summer campus programs for undergraduates, drawing on a range of disciplines. Students will also have many opportunities for social interaction and skills training in areas such as the graduate record exam and in preparing applications for graduate and undergraduate training. The laboratory has several graduate students and postdoctoral fellows who will serve as individual mentors for this experience. Students are expected to work in the laboratory from 8 a.m. to 5 p.m.

3

Investigator:	Dante Cicchetti, Ph.D.
Institution:	Mt. Hope Family Center, Rochester, New York
Research Area:	Child Maltreatment
Project Title:	Child Maltreatment: Chronic Stress of Maltreatment Drug Use Vulnerability
Start Date, Program Length:	June 13, 2005 — 9 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with an interest in psychological research with children and who are comfortable interacting with children; experience working with children preferred, but not mandatory

Mt. Hope Family Center is a nonprofit agency affiliated with the Department of Clinical and Social Sciences in Psychology at the University of Rochester. Under the direction of Dr. Dante Cicchetti, MHFC is internationally recognized for outstanding contributions to research in child development, child maltreatment, and developmental psychopathology.

The Summer Camp Program at Mt. Hope Family Center is a research and recreation program for low-income children aged 8–12 from the City of Rochester and Monroe County, New York. The program incorporates cutting-edge research in the behavioral and social sciences with children at risk. Through their participation in the program, research assistants will administer a large number of assessments, including collection of neurobiological data, computer-based tests of memory and attention, self-report measures of daily life experiences, measures of academic achievement and intellectual ability, and neurological and physiological assessments. These assessments are collected as part of a longitudinal study through NIDA looking at the effects of chronic stress on later drug use and abuse.

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Investigator:	Lisa Dierker, Ph.D.
Institution:	Wesleyan University, Middleton, Connecticut
Research Area:	Etiology of Substance Dependence
Project Title:	Etiology of Substance Dependence: Uncovering Multiple Pathways to Substance Use Disorders
Start Date, Program Length:	May 31, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with an interest in behavioral research and some experience with statistics

This research program utilizes previously collected data to answer questions regarding the development of substance abuse and dependence among adolescents and young adults. The goals of the research are specifically aimed at—

- Distinguishing between substance use behaviors leading to abuse and dependence vs. less severe levels of use
- Identifying prominent and unique risk pathways that predict the most severe substance use outcomes
- Evaluating the potential for reduction of substance abuse and dependence through targeted interventions

Students will receive training and mentorship in library research and literature review, data management, and statistical analyses. Aside from this hands-on research experience focused on substance use, Wesleyan University has an extensive summer research infrastructure that provides students with scientific workshops. Topics of these workshops include graphics and presentation software packages; resumes and career discussions; writing and critiquing abstracts; and preparing a poster. There is also a summer seminar series given by outside speakers on topics valuable for the undergraduate audience of varying scientific backgrounds and fields. For a list of past summer series talks, go to http://wesleyan.edu/hughes/seminars_04.htm

Investigator:	Carl Leukefeld, D.S.W.
Institution:	University of Kentucky, Lexington, Kentucky
Research Area:	Criminal Justice and Treatment Research
Project Title:	Central States Criminal Justice Drug Abuse Center
Start Date, Program Length:	June 1, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with interest in behavioral research with drug abusers returning to the community from prison and/or interest in prison treatment

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The Central States Criminal Justice Drug Abuse Center focuses on developing information to improve transitions and interventions for criminal-justice–involved drug abusers to reduce recidivism, drug abuse, and related crime.

Investigator:	Jennifer B. Unger, Ph.D.
Institution:	University of Southern California, Alhambra, California
Research Area:	Preventive Medicine/Public Health
Project Title:	Adolescent Drug Use: Family, Peer, and Cultural Contexts
Start Date, Program Length:	Flexible — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students fluent in Spanish. However, non–Spanish-speaking students could work with English-speaking respondents. Students familiar with statistical analysis and/or social network analysis could also participate in data analysis (optional)

6

This is a newly funded study of the risk and protective factors for drug use among Hispanic adolescents in the Los Angeles area. Researchers will conduct in-school surveys of 2,000 Hispanic high school students and conduct focus groups of 64 parents of these students. Researchers will ask the students and parents about their family acculturation patterns. The study will gather social network data to construct diagrams of the adolescents' social networks and understand how drug use diffuses through social networks.

The study will use GIS techniques to obtain information about the socioeconomic contexts of the neighborhoods where the families live. Combining all this information, the study will conduct statistical analyses to determine the roles of family acculturation patterns, social networks, and the neighborhood context of the adolescents' drug use. This summer, this study will be in the data collection and analysis phase. Students will assist in entering and analyzing the survey data, conducting focus groups, and preparing for the second wave of the survey. Students should feel comfortable going (with a graduate student or staff member) to schools or community centers and having small-group discussions with Hispanic adolescents and/or parents.

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Investigators:	Kenneth Dodge, Ph.D.; Phil Costanzo, Ph.D.
Institution:	Duke University, Durham, North Carolina
Research Area:	Prevention of Adolescent Substance Abuse
Project Title:	Prevention of Adolescent Substance Abuse: Duke Transdisciplinary Prevention Research Center
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with interest in behavioral and social sciences as applied to adolescents, education, and drug policies

Each summer, the Center for Neuroscience at the University of Pittsburgh (CNUP) sponsors a 10-week program where selected undergraduate students conduct independent research under the guidance of individual CNUP training faculty. Fellows will be provided with an opportunity to experience the challenges and rewards of intensive, hypothesis-driven laboratory research in neuroscience. CNUP training faculty investigate diverse aspects of nervous system function. Consequently, the features of an undergraduate summer research project might include neuroanatomy, neurophysiology, molecular biology, brain imaging, computer simulations, neuropsychology, or behavioral assessments.

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Investigator:	Amelia Arria, Ph.D.
Institution:	University of Maryland, College Park, Maryland
Research Area:	Epidemiology
Project Title:	College Life Study (Epidemiology)
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students with interest in health-related research, psychology, and public health; computer experience and interpersonal skills required

The College Life Study is a longitudinal prospective study of college students' risk behaviors. Students will be involved in all aspects of data collection and management of a large-scale public health study, including interviews with college students.

Investigator:	Virginia Delaney-Black, M.D., M.P.H.
Institution:	Wayne State University, Detroit, Michigan
Research Area:	Prenatal Cocaine/Alcohol and Behavior, Effects of Violence Exposure
Project Title:	Consequences of Prenatal Cocaine Exposure in Adolescence
Start Date, Program Length:	Late May 2005 — 10 Weeks
Housing Available:	Yes
Student Attributes:	Seeking high school and undergraduate students with strong mathematics and science skills and interest in either clinical or research aspects of child development; career plans in medicine, nursing, or social sciences preferred; students with declared majors of psychology, biology, or sociology also preferred

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This study is a longitudinal assessment of women and their children. Women in the research sample were recruited through an urban, university-based maternity clinic. All women were screened at their first prenatal visit for alcohol and drug use and invited to participate in a pregnancy study. When the children reached age 6–7 years, researchers tested 556 children. Currently, children's cognitive, emotional and physical development are being assessed at age 13 during a 2-day, intensive visit to the laboratory. School and teacher data are also being obtained.

In addition to research experience, students in this program will attend weekly lectures with other students participating in pediatric research experience. Topics for these weekly brown-bag lunches will range from experiences in medical training and other university-sponsored research and training to other topics germane to this research project—including the effects of both prenatal and postnatal exposures on child development and medical ethics. Students will have an opportunity to observe in the clinics and inpatient wards and will also be exposed to data collection, database management techniques, and the latest in data management software. Introductory statistical mentoring will also be available, including introduction to the most widely used statistical packages (SPSS).

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Investigator:	Judy A. Andrews, Ph.D.
Institution:	Oregon Research Institute, Eugene, Oregon
Research Area:	Etiology of Substance Use
Project Title:	Etiology of Substance Use: Early Predictors of Child and Adolescent Substance Use
Start Date, Program Length:	June 28, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate upper-classmen who have successfully passed a research methods course; experience with Windows environment is essential, and familiarity with Microsoft Word or WordPerfect a plus

Students will work on an ongoing longitudinal project to investigate the processes related to the acquisition of substance use from mid-childhood (age 6) to mid-adolescence (age 18). The sample population was recruited when the children were in the first through fifth grade; assessments are conducted annually. Participants are currently in the 7th through 11th grade, and assessments will continue until they are in the 9th grade through 1-year post-high school. Data is collected measuring risk factors from several domains (including the school, neighborhood, family, peers) from multiple respondents, including the child, the parents, and teachers. The study and some of its findings are described at www.ori.org/abacus

The focus of this program is to expose students to the varied aspects of the research project and the environment of a research institute. Students will—

- Attend monthly scientist and science-support meetings to understand the climate of a research institute.
- Attend colloquiums or brown-bag sessions on research topics covering a wide realm of topics in the behavioral sciences.
- Learn about the principles of confidentiality governing research work.
- Attend a Human Subjects Review Board meeting/training.
- Participate in and learn about the day-to-day activities of a large-scale project, including (a) processing survey data, including coding, data entry, and preliminary data analysis; (b) participant tracking; (c) preparation of surveys to send to participants; and (d) maintaining contact with the sample through preparation of newsletters.
- Attend scientist paper-production meetings and discuss their ideas with other scientists.

Some participant contact may be required, including yearly assessments and phone contact. With the aid of the project scientists, students will develop hypotheses, search the library for support of their hypotheses, and run analyses to investigate these hypotheses. Students will present their ideas at the paper meeting and will write a brief report of their findings.

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Investigator:	Daniel Polsky, Ph.D.
Institution:	University of Pennsylvania, Philadelphia, Pennsylvania
Research Area:	Economic Analysis, Cost-Benefit/Cost-Effectiveness of Substance Abuse Treatment Programs
Project Title:	Cost Economic Analysis of Buprenorphine Treatment for Upload Addicted Youth
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate student with background and/or interest in economics or interest in sociology or human services in combination with economics; good writing skills and library experience also useful

This project examines the cost-effectiveness/cost benefit (CEA) of a new type of treatment intervention for opioid-addicted youth. The new treatment intervention combines the use of buprenorphine for detoxification in combination with individual and group psychosocial interventions. The treatment is being implemented through the Clinical Trials Network (CTN) of Delaware Valley and employs a randomized design to assess the impact of dose duration on remaining opioid-free and remaining in treatment for the entire 90 days of the program.

Youth are randomly assigned to either the buprenorphine treatment intervention for 30 days in combination with 90 days of individual and group psychotherapy or to 14 days of buprenorphine and 90 days of individual and group psychotherapy (considered treatment as usual). This project compares the costs and benefits of the 30-day intervention and the 14-day treatment as usual. By the summer of 2005, the field interviews with staff of each of the participating treatment programs will be completed.

A summer student would work on the final data collection by participating in conference calls, assisting in organizing and developing the database, and preliminary analyses. The student will also be able to participate in meetings of the project team, work with the PI and project manager on specific projects and any specific interests of the student in relation to the larger study.

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Investigator:	Kelly J. Kelleher, M.D., M.P.H.
Institution:	Columbus Children's Research Institute, Columbus, Ohio
Research Area:	Adolescent Drug Screening
Project Title:	Adolescent Drug Screening: Trial of Automated Risk Appraisal for Adolescents
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with a commitment to the social sciences and to poor and underserved communities; opportunities in rural and urban areas

Students will participate in the development and writing of papers employing secondary data to examine patterns and costs of services for adolescents affected by drug abuse or to examine attitudes and experiences with computer screening for drug use and impairment. All studies involve social sciences and public health.

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Investigator:	Kim Blankenship, Ph.D.
Institution:	Yale University, New Haven, Connecticut
Research Area:	Sociology, Race/Gender Inequality, Policy
Project Title:	Criminal Justice, Race, and HIV Risk in Connecticut Drug Users
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with interest in HIV/AIDS issues; must be willing to work as team member and demonstrate nonjudgmental attitude toward drug users and those with a history of incarceration; should have a broad range of skills or desire to learn skills, including literature reviews, interview transcription, qualitative interview coding, data entry, and face-to-face interviewing

This project focuses on developing a better understanding of how the criminal justice system influences HIV risk in general—and race disparities in HIV in particular—among individuals with a history of drug use. The project involves life history and structured survey interviews with former inmates (male, female, White, African American) currently on probation and parole, as well as semistructured interviews with members of the criminal justice system (e.g., parole and probation officers, attorneys, judges).

The focus of the interviews of former inmates will be on experience in the criminal justice system, degree of socioeconomic vulnerability, network and family relationships, service utilization, and sex and drug use behaviors. Interviews with members of the criminal justice system will include topics such as their work histories and job responsibilities, use of discretionary authority and monitoring powers, attitudes towards clients, drug use, HIV, and views on reform of the criminal justice system.

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Investigator:	John M. Bolland, Ph.D.
Institution:	University of Alabama, Tuscaloosa, Alabama
Research Area:	Adolescent Risk Behavior
Project Title:	Strengthening Neighborhood Investment: An Evaluation (Adolescent Risk Behavior)
Start Date, Program Length:	May 16, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with experience working with low-income populations and who are sensitive to issues of race and poverty; research is conducted in low-income, potentially dangerous neighborhoods where students must be willing to work; staff members take precautions to minimize risk

Each summer, the Institute for Social Science Research at the University of Alabama conducts a summer research practicum in Mobile, Alabama. Participating students receive a week of training in the conduct of field research. The students then spend the rest of the summer recruiting and surveying adolescent respondents from 13 low-income, mostly African-American neighborhoods in Mobile, as part of a longitudinal study (now in its eighth year) of risk and protective factors and how they affect behavior.

Data from the survey are being used in two NIDA-funded studies and a CDC-funded study. During the recruitment process, students go door-to-door to explain the study to adolescents and their parents and schedule the adolescents to participate in group survey administrations. They administer the surveys to adolescents who do not come to their scheduled survey administrations, often conducting individual surveys in a respondent's home.

Students receive three course credits from the University of Alabama, which are typically accepted by other colleges and universities. Each week, the students meet as a class to discuss topics related to conducting research with impoverished populations. After 7 years, over 6,000 different adolescents have been surveyed. Students who participate in the practicum are given access to the data to use in honors or masters theses and dissertations.

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Investigator:	Michael Lewis, Ph.D.
Institution:	University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School, New Brunswick, New Jersey
Research Area:	Developmental Psychology
Project Title:	Institute for the Study of Child Development
Start Date, Program Length:	Flexible — 8 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with psychology majors and an interest in development

This is an ongoing study from birth of children prenatally exposed to cocaine and other substances. Children in the study are turning 11 years of age. They have been evaluated repeatedly in a variety of areas of functioning, using primarily behavioral methods. A new brain imaging study of the subjects is underway. The project is particularly interested in the effect of prenatal cocaine exposure on social and emotional competence. There are two sites involved in data collection: Philadelphia, Pennsylvania, and Trenton, New Jersey. Data coding and library research is conducted in New Brunswick, New Jersey.

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Investigator:	Leonard Jason, Ph.D.
Institution:	DePaul University, Chicago, Illinois
Research Area:	Psychology
Project Title:	Abstinent Social Support in Oxford House
Start Date, Program Length:	June 14, 2005 — 8–10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students desiring training and preparation for a Ph.D. or graduate program in psychology, public policy, public health, or health psychology

The DePaul University Oxford House research project is very closely associated with the field of community psychology that focuses on more large-scale, community-based programs as opposed to individual therapy. In this research program, researchers are studying Oxford Houses, which are self-run homes for individuals attempting to recover from drug and alcohol abuse. These homes have no staff members but are instead run democratically by the members themselves. There are few rules in the houses other than that house residents must pay rent and not use drugs or alcohol. This is an approach that has great potential in that it is likely a cost-effective and humanistic approach very different from other types of recovery progams.

Researchers have been examing this program from many different approaches, looking at issues related to gender and ethnic differences, clinical disorders, history of trauma, criminal behavior, health consequences, social support, self-esteem, and public policy. Researchers have completed data collection for the study, and students can expect to be involved in data analysis.

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Investigator:	Linda Cottler, Ph.D.
Institution:	Washington University, St. Louis, Missouri
Research Area:	Drug Abuse Epidemiology
Project Title:	Enrolling and Recruiting Female Offenders Into HIV Prevention Studies: Deconstructing HIV Interventions
Start Date, Program Length:	June 15, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Undergraduate students

The team involved in this community-based project is multidisciplinary. The project involves working on HIV interventions to reduce the spread of HIV/AIDS among high-risk females. Students may be involved with data entry, programming, library work, editing of manuscripts, interviewing, and other research activities. There are also opportunities for students to learn about classifying drug abuse and dependence. Investigators will be extremely interested in the student's training and welfare. Lifelong relationships can be formed.

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Investigator:	Bentson McFarland, M.D., Ph.D.
Institution:	Oregon Health & Science University, Portland, Oregon
Research Area:	Substance Abuse
Project Title:	Standardized Patients as Drug Abuse Clients
Start Date, Program Length:	June 1, 2005 — 8 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students able to watch a videotape and code both clinician and SP utterances; students must be able to go to the library and find articles without supervision; interest in medicine preferred

This project involves research on the feasibility of using standardized patients to train and assess drug and alcohol counselors. Standardized patients (SPs) are individuals hired to act out patient roles. In performing a patient role, a standardized patient may display physical symptoms and emotions, and reveal a medical history so convincingly that it can be difficult to distinguish a standardized patient from a "real" one. The purpose of this study is to examine the efficacy of using SPs for teaching and assessment of drug and alcohol counselors, to determine whether or not SPs can believably portray public sector drug abuse treatment clients, and assess the extent to which SPs can provide useful feedback regarding drug abuse treatment provider performance. By the summer, three major tasks will be performed—

- Encounters between SPs and clinicians will be set up; this will involve clinician recruitment; setting up equipment; reserving rooms; distributing and collecting consent forms, postencounter forms, and patient satisfaction forms.
- Encounters will be videotaped. Videotapes will be viewed and coded, based on their contents. There is particular interest in what questions clinicians will typically ask their clients. More than one person will view each videotape to collect information.

- A literature review will be continued. Manuscripts will be written and submitted to journals for publication. This task will involve finding articles at the library; entering article information into a computer database; data analysis; and writing results and the articles.

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Investigator:	Warren K. Bickel, Ph.D.
Institution:	University of Arkansas for Medical Sciences, Little Rock, Arkansas
Research Area:	Behavioral Research
Project Title:	Delay Discounting in Drug Dependence (Behavioral Research)
Start Date, Program Length:	June 1, 2005 — 8 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with psychology majors; research experience is not a prerequisite

The Arkansas Center on Addictive Behaviors (ACAB) laboratory research program is part of the Department of Psychiatry at the University of Arkansas for Medical Sciences in Little Rock, Arkansas. Behavioral economics, which combines concepts from behavior analysis, psychology, and economics, is the main theoretical framework for the laboratory studies. The laboratory projects include a range of decision-making studies with human participants, including multiple experiments on delay discounting. This research provides an environment where basic behavioral research is employed to further the understanding of drug dependence.

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Investigator:	Eloisie Dunlap, Ph.D.
Institution:	National Development and Research Institutes, New York, New York
Research Area:	Family
Project Title:	Transient Domesticity and Violence in Distressed Household
Start Date, Program Length:	June 27, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with minimum 3.0 GPA; should have experience in Word, good writing skills, and working knowledge of using library and internet resources for research

The purpose of this research project is to document how changes in mates among poor persons, especially those using illegal drugs, impact household and family life. The project is also interested in the causes and consequences of violence in relationships.

Work will involve conducting confidential interviews with several persons concerning male-female relations, household formation, and family life. It is the project's goal to inform policymakers and those who allocated

public and private funds and other resources about the often hidden and poorly documented stresses on poor, innercity families.

Interviews and observations are used to describe normative patterns. Observations will help to develop typologies and processes and the social context in which family life takes place. Interviews are to be open-ended, in-depth, and audiotaped. Ethnographic field observations complement the self-report interview data.

Students engaging in research at NDRI will be closely mentored by experienced project staff to obtain the necessary skills and understanding of advanced behavioral research. The students will have an assortment of research-related tasks to perform with the opportunity to work directly with research data, learning how to enter and code data into advanced databases. The students will learn to operate highly sophisticated programs such as SPSS, Filemaker Pro, Microsoft Excel, and PowerPoint. They will also have the opportunity to work on manuscripts for publication through library and internet searches and careful checking of references.

Students will acquire experience not only in the preparation of manuscripts for publication, but also in the formulation and preparation of research findings to be presented at scientific meetings. Students will be required to attend certain NDRI Training Institute courses where they will learn about drug use, HIV/AIDS, and a number of social problems (http://training.ndri.org/). The goal of the program is to provide both specific research skills and an overall understanding of research project components and management.

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Investigator:	Warren A. Reich, Ph.D.
Institution:	The Family Center, Inc, New York, New York
Research Area:	Applied Social Psychology
Project Title:	Images of Self and Others in AIDS-Orphaned Youth
Start Date, Program Length:	June 1, 2005 — 8 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students who have taken at least one course in quantitative methods

Dr. Warren A. Reich currently coordinates two studies. The studies examine how youth (ages 18–22) who have lost a parent to AIDS describe themselves (actual and ideal), others, and interpersonal situations involving safe sex or drug use. Students with a background interest in social/behavioral sciences are encouraged to apply.

In this summer internship, students will perform a number of statistical analyses on participants' data. This will provide valuable experience in conducting and presenting results from advanced statistical methods (especially clustering, multidimensional scaling, multiple regression). The students will also conduct literature searches and provide general research support activities. The internship will culminate in a conference presentation.

The Family Center is a nonprofit organization that provides permanency planning services to families in New York affected by terminal parental illness (including HIV/AIDS or cancer). Please visit www.thefamilycenter.org. The Center provides a dynamic research/service interface that offers an excellent educational opportunity for students pursuing a career in applied social research.

Investigator:	Dorothy Browne, Ph.D.
Institution:	Morgan State University, Balimore, Maryland
Research Area:	Drug Abuse
Project Title:	HBCU Research Scientist Award
Start Date, Program Length:	May 23, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students who have taken courses in research statistics and methodology

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The 2005 Summer Research With NIDA Program at Morgan State University offers undergraduate students the opportunity to acquire research experienice in an urban setting. Students will participate in activities associated with drug use research. They will receive an introduction to the epidemiology of drug use, scientific methods, and scientific writing. Students will also be involved in composing a novel research manuscript and will formally present their research at the conclusion of the program.

Investigator:	Adeline Nyamathi, Ph.D., ANP, FAAN
Institution:	University of California, Los Angeles, Los Angeles, California
Research Area:	Hepatitis/HIV Prevention
Project Title:	HBV Prevention for Homeless At-Risk for HBV/HCV/HIV
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students majoring in psychology, sociology, or public health

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This research program utilizes a three-group quasi-experimental design to evaluate with homeless men and women in the Skid Row area of Los Angeles the effectiveness of a theoretically based HAV/HBV vaccination intervention. The primary focus is on completion of the combined Twinrix HAV/HBV vaccination series. The second focus is on risk reduction of HAV, HBV, HCV, and HIV. The third focus is on data collection of the relative cost of each of these programs regarding HAV/HBV vaccination completion, the cost-effectiveness of improving vaccination completion, the cost per seroprotected case, and the cost per infection prevented.

Once determined eligible, participants are randomized by area into one of the three programs: Nurse Case Managed Plus Incentive and Tracking (NCMIT) program; Standard Plus Incentive and Tracking (SIT) program; or Standard With Incentive (SI) program. This research program is innovative in that the comparison of the SI, SIT, and NCMIT programs allows us to look at the effect of a standard intervention, combining brief education and incentives with and without tracking with that of a similar intervention that also includes nurse case management on completion of the HAV/HBV vaccination.

Participants in the three programs are receiving the three-series vaccination by trained research nurses at the study clinic over a period of 6 months, along with either the NCMIT, SIT, or SI program. All participants are assessed at baseline and at 6- and 12-month followup, using a battery of psychosocial, behavioral, health and physical status measurements, as well as HAV, HBV, HCV and HIV serostatus measurements. This study supports the National Drug Abuse Research Initiative as it is focused on assessing the effectiveness of inter-

vention programs promoting the prevention of medical consequences of HAV, HBV, HCV, and HIV in homeless and drug-abusing populations.

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Investigator:	Suzanne L. Wenzel, Ph.D.
Institution:	RAND, Santa Monica, California
Research Area:	Health of Vulnerable Populations
Project Title:	Prevention for Impoverished Young Women in Shelters
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with some previous experience working with homeless and other poor women (particularly young women) or volunteering for community service agencies (e.g., domestic violence services)—not required

Little is known about the transition to adulthood for young women who are impoverished and homeless, yet many of these individuals use illicit drugs, engage in risky sexual behaviors, and experience physical and sexual victimization. Evidence-based prevention approaches addressing these interrelated problems among young, impoverished women transitioning into adulthood are lacking.

The objectives of this study are to (1) enhance understanding of the transition to adulthood for impoverished adolescents and young women ages 18–25 who reside in homeless shelters; and (2) explore the feasibility of adapting an intervention from our previous work with adolescents for use with impoverished adolescents and young women in preventing and reducing drug use, HIV risk behaviors, and victimization. This project will be the first step in an innovative line of research to address a critical gap in prevention services for impoverished adolescents and young women. The specific aims are to—

- (Year 1) Gather information on the transition to adulthood, and design an innovative prevention intervention for impoverished adolescents and young women ages 18–25 using (a) semistructured interviews with adolescents and young women (N = 20); and (b) have collaboration and feedback via focus groups with shelter directors, case managers, and other providers of services to impoverished adolescents and young women (two to three groups, six to eight persons per group).
- (Year 2) Pilot-test components of this innovative prevention intervention for impoverished adolescents and young women through focus groups (eight to ten groups, six to eight people per group).

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Investigator:	Charles Martinez, Jr., Ph.D.
Institution:	Oregon Social Learning Center, Eugene, Oregon
Research Area:	Prevention of Behavior Problems and Drug Use, Cultural Issues in Prevention Research
Project Title:	Linking Acculturation to Latino Adolescent Substance Use
Start Date, Program Length:	June 20, 2005 — 8 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students; bilingual in Spanish and English is helpful, though not required

This study is a project of an ongoing collaboration between the Oregon Social Learning Center Latino Research Team and many agencies and organizations in western Oregon. The study is designed to address significant gaps in prevention science regarding the experiences and challenges faced by recently immigrated Latino families with middle school youngsters at risk for substance use and related problems. The project is based on a community empowerment model and involves active collaboration and partnership in addressing project goals.

The aims of the project are to—

- Examine the direct effects over time of acculturation processes; social contexts and social support processes on family environment; parenting practices; and youth substance use and related problems for immigrant Latino families.
- Examine the direct and interactive effects of years of residency in the United States on the relationship between acculturation processes and the development of youngster substance use and related problems for immigrant Latino families.
- Test an integrative theoretical model based on social interaction learning theory that specifies mediating effects of family environment and parenting practices on the relationships between macrosystem and exosytem factors (i.e., acculturation processes, social contexts, and social support processes) and substance use and related problems for immigrant Latino youth and their families.

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Investigator:	Jane Dimmitt Champion, Ph.D., R.N.
Institution:	The University of Texas Health Science Center at San Antonio, San Antonio, Texas
Research Area:	Minority Adolescent Women With a History of STD, Interpersonal Violence, and Substance Use
Project Title:	Behavioral Invervention for Minority Adolescent Women
Start Date, Program Length:	June 1, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with a background in behavioral sciences and interest in adolescent health

There is a need for community-based, culturally sensitive, cognitive-behavioral interventions to reduce sexual risk behavior among minority adolescents for prevention of STD/HIV, unintended pregnancy, and abuse. This study builds on our behavioral interventions developed in the studies "Modifying STD Risk Behavior among

Minority Women." These studies are unique in that they designed and evaluated culturally relevant, minority-women–specific interventions based on the AIDS Risk Reduction Model (ARRM) and were shown to be effective through controlled randomized trials.

This study focuses on reducing rates of abuse recurrence, STD/HIV, and unintended pregnancy among these women by changing high-risk sexual behaviors, decreasing substance use, and encouraging contraceptive use. Its primary goal is to expand risk-reduction interventions created in previous studies to further increase intervention efficacy for this particularly vulnerable, high-risk group. An adolescent intervention has been created and pilot-tested in developmental studies. Findings indicate greater contraceptive use and lower sexual risk behaviors, substance use, abuse recurrence, unintended pregnancy, and STD rates than previous studies.

Specific aims of this study include—

- Obtain a more in-depth understanding of configurations of psychosocial and situational factors associated with high-risk sexual behavior, substance use, STD/HIV, and contraceptive use among abused, minority, adolescent women with STD.
- Implement a controlled randomized trial of a risk-reduction intervention consisting of small group sessions, individual counseling, and support groups for this group.
- Evaluate the effects of the adolescent intervention model versus enhanced counseling for this group on ARRM-related constructs, high-risk sexual behavior, substance use, abuse recurrence, contraceptive use, unintended pregnancy, and STD/HIV at 6- and 12-months followup.

Participants include a convenience sample of 600 Mexican and African American adolescent women, aged 14–18 years with a history of sexual or physical abuse and current STD.

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Investigator:	Richard F. Catalano, Ph.D.
Institution:	University of Washington, Seattle, Washington
Research Area:	Prevention of Adolescent Problem Behaviors
Project Title:	Raising Healthy Children (also known as Reducing Risks and Enhancing Protection)
Start Date, Program Length:	June 20, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students who demonstrate an interest in research focused on the prevention of youth problems

The Social Development Research Group (SDRG) is a nationally recognized, interdisciplinary team of researchers united in a common mission. Research focuses on the prevention and treatment of health and behavior problems among young people. For more information about SDRG, see http://depts.washington.edu/sdrg/.

Students will have the opportunity to gain hands-on experience on how survey research is conducted and to learn about the various stages of a research project. SDRG currently has eight NIDA-funded and two other federally funded research projects that are collecting data, tracking longitudinal samples, managing data, analyzing data, and creating publications. Interns will work with a mentor directly on one of the projects and also learn about other projects and activities through a twice-weekly seminar series.

This is one of four sites being sponsored by the professional organization, Society for Prevention Research (SPR). Interns involved with an SPR site may have an opportunity to kick off their internship by attending the annual SPR conference in Washington, DC, May 25–27, 2004. This is an exciting opportunity to learn from and meet leading researchers in prevention science and build skills for graduate school.

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Investigator:	Sanna J. Thompson, Ph.D.
Institution:	University of Texas at Austin, Austin, Texas
Research Area:	High-Risk Youth, Families, and Substance Use
Project Title:	Family-Based Substance Use Treatment for Runaway Youth
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate student who should have a major in social work or psychology; previous coursework in research methodology is required; some experience conducting research with human subjects, such as interviewing or recruiting for a study, is preferred. Prefer student who will be a senior during 2005–2006

The focus of the K01 research study is behavioral in nature and requires interest and skills in the social sciences. The study aims to test a 12-week, in-home, family-based, behavioral intervention for substance-using youth who have returned to their families following a runaway episode. A randomized trial with experimental and comparison groups is used to evaluate the effects of the intervention and rates of retention in treatment. Family and youth are recruited from four sites operated by LifeWorks, Inc., the gateway for services to runaway/homeless youth in Austin, Texas.

Runaway youth and their families who meet the study criteria (youth ran away, uses substances, is returning to parental home) are recruited for participation at the time the youth is returning home to the family. Once the youth and family agree to participate, they are assigned to the experimental or control condition. Youth and families in the control condition receive "service as usual" from LifeWorks counselors; those in the experimental condition will be offered 12 family-based sessions conducted by a licensed Master of Social Work (MSW) clinician. Sessions are provided in the home at no charge to the participants. The intervention focuses on engaging and retaining families and youth in the treatment process. Therefore, a series of "engagement activities" are provided at each family session. Measures are collected before treatment begins (pretest) and again at the conclusion of treatment (posttest) or at 12 weeks.

While this is a primary study, various other studies within the NIDA-funded Substance Abuse Research Development Program (SARDP) would be available to the student. SARDP includes a wide variety of studies focusing on substance use among many underserved populations, including criminal justice, domestic violence, and HIV/AIDS. See the following Web site for detailed description of activities: http://www.utexas.edu/research/cswr/nida/mission.html.

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Investigator:	Murelle G. Harrison, Ph.D.
Institution:	Southern University, Baton Rouge, Louisiana
Research Area:	Prevention
Project Title:	Preventing Substance Use Among Rural African American Youths
Start Date, Program Length:	June 6, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate psychology majors who have satisfactorily completed a course in statistics, 3.0 in psychology, and 2.5 overall GPA, and demonstrate a strong interest in drug abuse prevention research. Experience with SPSS 10.0 preferred; will also consider high school students

The Summer Research Initiative offers promising students who are interested in drug abuse prevention the opportunity to perform secondary analyses on existing data collected from over 400 rural, African American mothers and their 12-year-old first-born children and 150 rural South African mothers and their 12-year-olds. Participants will also have access to video-recorded data from intervention sessions. A written report and oral presentation via PowerPoint will be expected from each participant.

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Investigator:	Mark Muraven, Ph.D.
Institution:	University at Albany, Albany, New York
Research Area:	Psychology
Project Title:	Practicing Self-Control Lowers the Risk of Smoking Lapse
Start Date, Program Length:	June 15, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking high school and undergraduate applicants interested in psychological research, especially applying theories of self-control to addictive behaviors. Candidates should be personable and comfortable screening potential clients and interacting with participants in a smoking cessation study. Experience administering psychological tests and conducting research is a plus (but not mandatory)

Researchers are investigating the role of self-control in smoking cessation and whether interventions that improve self-control can help reduce the risk of lapsing among smokers who wish to quit. Student researchers will help screen potential clients, train participants in self-control techniques, and track participants' progress through the study.

Investigator: Karol Kaltenbach, Ph.D.
Institution: Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pennsylvania
Research Area: Pregnant Substance-Abusing Women and Outcome of Their Infants
Project Title: Pregnant Substance-Abusing Women and Outcome of Their Infants. Maternal Opioid Treatment: Human Experimental Research (MOTHER)
Start Date, Program Length: June 6, 2005 — 10 weeks
Housing Available: No
Student Attributes: Seeking undergraduate students with interest in clinical research; should have good computer/data analysis skills and must have interest in learning such skills

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This program specializes in the treatment of pregnant, opioid-dependent women and their children. There are two treatment programs: a long-term residential program for 20 women and children and an intensive outpatient treatment program for 170 women and children. Both programs provide comprehensive treatment, including individual and group therapy, psychiatry services, pharmacotherapy for opioid dependence, prenatal care, HIV counseling and testing, case management, health education, and parent-child services, including development child care, parent support, and parent education groups. This current research is part of a multisite, double-blind, randomized controlled trial comparing methadone and buprenorphine for the treatment of pregnant, opioid-dependent women and neonatal abstinence in their neonates. Excellent placement for students interested in clinical research in pharmacology, psychology, social work, substance abuse treatment for women, pediatrics, psychiatry, and/or obstetrics.

Investigator: Steven Shoptaw, Ph.D.
Institution: University of California, Los Angeles, Los Angeles, California
Research Area: Medication Development, Behavioral Epidemiology, Substance Abuse
Project Title: UCLA Medication Development Unit for Stimulant Abuse
Start Date, Program Length: June 6, 2005 — 10 weeks
Housing Available: No
Student Attributes: Seeking high school and undergraduate students with previous experience with a behavioral research team (preferred, but not required); strong writing skills are important. Interns interested in outpatient drug abuse treatment research must have access to transportation to and from the clinic (located 45 miles east of UCLA) since Los Angeles has poor public transportation; special interest in psychology, medicine, epidemiology, and statistics preferred, but not required

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The UCLA Integrated Substance Abuse Programs provides NIH internship opportunities for interested students in two general areas: (1) medication development for methamphetamine abuse; and (2) behavioral epidemiology on the transmission of HIV via sexual behaviors among drug users. Under the direction of Dr. Steven Shoptaw, interns will attend a weekly seminar on a wide range of topics on drug abuse and will be placed with ongoing studies in medication development or behavioral epidemiology.

Medication development placements include the general clinical research center at UCLA and an outpatient, drug abuse treatment program in Rancho Cucamonga, California. Behavior epidemiology placement is in both the field (Hollywood area of Los Angeles) and on campus. Interns will be placed with at least one writing team and will have the opportunity for authorship, depending on level of involvement.

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Investigator:	John R. Knight, M.D.
Institution:	Harvard Medical School (Children's Hospital, Boston), Boston, Massachusetts
Research Area:	Adolescent Substance Abuse Screening and Intervention
Project Title:	Medical Office Intervention for Adolescent Substance Abuse; Screening and Brief Advice To Reduce Teen Drug Use
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students pursuing a health profession (e.g., medicine, nursing, public health, or psychology degree) and interested in working with adolescents (aged 12–18)

The summer research experience at the Center for Adolescent Substance Abuse Research (CeASAR) at Children's Hospital, Boston, will include attendance at research team meetings, assembly of study packets (consent forms, questionnaires), administration of questionnaires and interviews with 12–18-year-old patients, data entry, and other assignments in patient-oriented research.

CeASAR's goal is to develop a complete set of evidence-based guidelines on screening, assessment, and intervention for substance abuse that can be applied to adolescent medical patients. Current studies include (1) a randomized controlled trial of a new behavioral intervention (motivational interviewing) for substance abuse among outpatients at the Adolescent Substance Abuse Program at Children's Hospital Boston; and (2) a trial of substance abuse screening in a brief, provider advice network of primary care sites throughout New England. CeASAR is developing state-of-the-art computerized screening and assessment programs for use in these studies.

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Investigator:	Linda C. Mayes, M.D.
Institution:	Yale University, New Haven, Conneticut
Research Area:	Impact of Prenatal Cocaine Exposure on Children's Attention and Emotional Regulatory Capacities
Project Title:	Arousal and Attention in Cocaine-Exposed Children
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with an interest in studies of children and child development; psychology or neuroscience major preferred, and an expressed interest in behavioral research and/or need for a senior research project

This laboratory is engaged in a longitudinal study of a cohort of prenatally cocaine-exposed children, the oldest now being 12 years of age. The children are seen twice a year for detailed behavioral, neuropsychological, and neurophysiological studies. Students interning in our laboratory have the opportunity to learn about neuropsychological testing, the neurophysiology of the acoustic startle response, and event-related potential using a new method based on high-density event-related potential techniques. Students are also exposed to basic database management and data analysis techniques. Past summer interns have been able to work on manuscripts and posters for national meetings.

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Investigator:	James W. Cornish, M.D.
Institution:	University of Pennsylvania, Philadelphia, Pennsylvania
Research Area:	Psychiatry
Project Title:	Minority Summer Internship Program
Start Date, Program Length:	June 6, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Undergraduate students

This study provides research placements for participating students. The program will be a 10-week, 40-hours-per-week placement, supervised by a principal investigator and a designated program director. The program will consist of—

- Formal coursework: Psychiatry 105 coursework (didactics); diagnosis and treatment of substance abuse; MCAT and GRE training classes (optional)
- Participation in meetings; weekly speaker sessions, hosted by various investigators from the field
- Data collection and data analysis; active research study preparation, including CRF work and assessments (may include patient contact)
- Laboratory experience/experiments, including animal research
- Library research
- Group activities, including mentor meetings
- Final oral presentations

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Investigator:	James (Jim) C. Anthony, Ph.D.
Institution:	Michigan State University, East Lansing, Michigan
Research Area:	Epidemiology Services and Prevention
Project Title:	NIDA Summer Program on Drug Dependence Epidemiology, Services and Prevention Research
Start Date, Program Length:	June 27, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking juniors in high school; freshmen and sophomores in college. Based in a medical school, we are especially interested in summer research apprentices who have an abiding commitment for work on the above-mentioned experiences and problems of young people in the domain of drug problems; who have a vocational calling for the M.D., Ph.D., or the combination of M.D. and Ph.D; and who have a focus on careers that combine excellence in the clinical practice of medicine with outstanding research activity

This research program is focused on epidemiology, services (early outreach), and prevention research. Students are invited to join as research apprentices in important public health research on ways to understand the drug experiences and drug problems of young people, to reach out and help young people who have started to experience drug problems, and to help prevent the occurrence of these drug problems or to reduce the risk of these drug problems. The aim is to help prepare high school seniors and undergraduates for research careers in epidemiological and public health research.

Students will be prepared specifically for biomedical research careers with a particular focus on youthful drug experiences and drug problems that can lead to serious drug dependence. The program will teach mastery of concepts, principles, and methods of epidemiology and biostatistics as applied to these biomedical problems. The program also teaches mastery in the use of internet and online epidemiological surveillance and intervention research tools such as our own Longitudinal Surveillance Engine (LSE). The LSE is programmable by high school students and undergraduates working under the supervision of our training program faculty members and near-peer mentors selected from among our graduate students and postdoctoral fellows.

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Investigator:	Lynn Singer, Ph.D.
Institution:	Case Western Reserve University, Cleveland, Ohio
Research Area:	Behavioral Teratology
Project Title:	Cocaine-Exposed Children at School
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with majors in psychology, medicine, or one of the behavioral sciences; candidates with sincere interest in developmental outcomes related to prenatal drug exposure are preferred

This longitudinal study of prenatal cocaine exposure is currently in its 10th consecutive year. The focus of the study is on cognitive and emotional outcomes of prenatally cocaine/polydrug–exposed children and the environmental correlates that contribute to the outcomes, either positively or negatively. During the summer of 2005, the study will be completing a 9- and 10-year assessment battery and preparing for the 11-year assessment phase. All summer research interns will be involved in a number of research activities, including observations of child and caregiver assessments, attending weekly talks by coinvestigators, completing assigned reading on relevant topics, and working directly with a mentor on an individual research topic. The summer will end with a formal presentation of research to the research group.

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Investigator:	Jane Liebschutz, M.D., M.P.H.
Institution:	Boston University Medical Center, Boston, Massachusetts
Research Area:	Trauma, Prescription Drug Abuse, Pain
Project Title:	Co-Occurring Chronic Pain, Trauma, and Substance Abuse in Primary Care Setting
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with good communication skills and ability to process emotionally charged stories. Must be dependable, computer literate, and able to concentrate in busy office and follow protocol in hospital setting

Boston University Medical Center is located in the historic South End of Boston. The center has a sister relationship with Boston Medical Center, serving Boston's indigent population. The principal investigator is in the first year of a 5-year grant to look at patients in the primary care setting. Patients who screen for chronic pain will be interviewed. The study is examining patients with chronic pain who may also have a history of trauma experiences and who abuse drugs. Of those who misuse drugs, the study is particularly interested in learning about those who abuse prescription drugs. This is the first stage of a three-stage study, and it involves interviewing 600 patients by administering instruments. The goal is to develop a better plan for doctors who treat patients with multiple problems, such as substance abuse, chronic pain, and psychological trauma. Students will conduct interviews on drug and alcohol abuse, post-traumatic stress disorder, depression, panic and anxiety, severe pain, and quality of life. They will work with a team of researchers and conduct in-depth interviews on these sensitive topics.

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Investigator:	F. Joseph McClernon, Ph.D.
Institution:	Duke University Medical Center, Durham, North Carolina
Research Area:	Clinical Neuroscience
Project Title:	Using Neuroimaging To Understand Drug Addiction
Start Date, Program Length:	June 6, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking high school and undergraduate students with an interest in neuroscience/psychology; solid background in mathematics preferred; must have excellent computer skills (e.g., spreadsheet, word processing) and preferably experience with MATLAB or other programming languages

Are you interested in doing research exploring the effects of drug addiction on the brain? At the Tobacco Neuroscience Research Laboratory at Duke University Medical Center, we are using brain imaging techniques (fMRI) to research the effects of quitting smoking on brain functioning and smokers' reactions to drug cues. This research is important for understanding addiction and developing new ways to help people quit smoking. Summer students will learn about brain imaging research, assist with human data collection, and help with data processing and analysis. Candidates for our program must enjoy working with people and have excellent computer skills. An interest in the brain and/or neuroscience is required! We are a young and enthusiastic research team, and we look forward to working with you. For more information, call Dr. Joe McClernon at 919-668-3987 or visit www.duke.edu/~fjm3.

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Investigator:	Adeel A. Butt, M.D.
Institution:	University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania
Research Area:	Hepatitis C and Hepatitis C/HIV Co-Infection
Project Title:	Treatment Disparities/Outcomes in HCV/HIV Co-Infection
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with basic knowledge of computer applications and data entry into simple word processing and spreadsheet programs preferred, but not required

The students will be expected to participate in submission of study materials to the Institutional Review Board (IRB), recruitment of subjects to clinical studies, and data entry into computerized databases. Prior to such activities, the students will be required to complete training modules in human subject research (help and supervision will be provided), and meet all local IRB requirements to take part in human subject research. At the end of the program, students will have learned the IRB requirements and policies and procedures for human subject research through hands-on training and experience. The students will also learn to work with a diverse group of human subjects and to interact with them in the context of clinical research studies. Based on the students' prior education and experience, they may also be involved in data analysis and learn basic statistical considerations in clinical studies.

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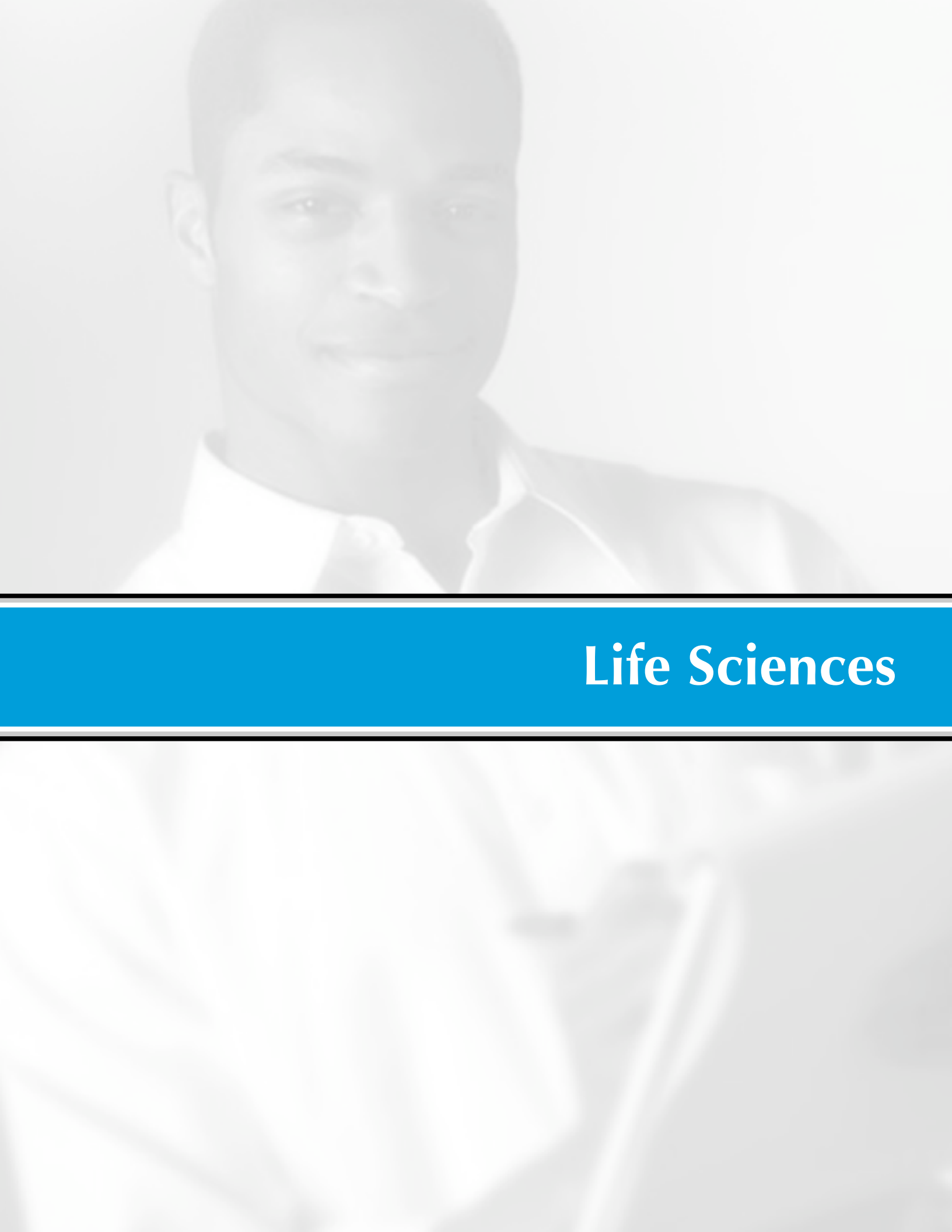
Investigator:	Walter Ling, Ph.D.
Institution:	University of California, Los Angeles, Los Angeles, California
Research Area:	Behavioral Epidemiology, Substance Abuse
Project Title:	HIV/STD Risk Behaviors in Methamphetamine User Networks; Clinical Trials Network; Pacific Region Node
Start Date, Program Length:	June 6, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students with experience with a behavioral research team (preferred, but not required); strong writing skills are important. Interns interested in outpatient drug abuse treatment research must have access to transportation to and from the clinic (located 45 miles east of UCLA) since Los Angeles has poor public transportation; special interest in psychology, medicine, epidemiology, and statistics preferred, but not required

The University of California, Los Angeles, Integrated Substance Abuse Programs and the Friends Research Institute offer a wide variety of opportunities for participation in clinical research studies with substance abusers and exposure to scientific design, data entry, and analysis. Writing skills are needed when working in a research setting. Students will have the opportunity to participate in various projects, ranging from pharmacotherapy for opiate dependence to behavioral treatments for abuse of many other substances, including cocaine, methamphetamine, nicotine, and HIV/AIDS–related projects.

The UCLA Integrated Substance Abuse Program provides NIH internship opportunities for interested students in two general areas: (1) medication development for methamphetamine abuse; and (2) behavioral epidemiology in the transmission of HIV via sexual behaviors among drug users. Under the direction of Dr. Steven Shoptaw, interns will attend a weekly seminar on a wide range of topics on drug abuse and will be placed with ongoing studies on medication development or behavioral epidemiology.

Medication development placements include the general clinical research center at UCLA and an outpatient drug abuse treatment program in Rancho Cucamonga, California. Behavior epidemiology placement is both in the field (Hollywood area of Los Angeles) and on campus. Interns will be placed with at least one writing team and will have the opportunity for authorship, depending upon level of involvement. Interns interested in outpatient drug abuse treatment research must have access to and from the clinic (located 45 miles east of UCLA) since Los Angeles has poor public transportation.



Life Sciences

Life Sciences

Ideal for, but not limited to, students with majors/interests in biology (molecular/cell), neurobiology, psychobiology, neuroscience, behavioral neuroscience, pharmacology, chemistry, biochemistry, and brain imaging

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Investigator:	Andrew Coop, Ph.D.
Institution:	University of Maryland, School of Pharmacy, Baltimore, Maryland
Research Area:	Chemistry and Pharmacology of Opioids
Project Title:	Opioids With Delta Antagonist and Mu Antagonist Activity
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with a major in chemistry (for the chemical portion of the program) or biological sciences (for the pharmacology and transport portions of the program)

The Opioid Tolerance miniprogram at the University of Maryland is one part of a multidisciplinary program aimed at reducing the problem of constipation in patients chronically treated with morphine. The problem can become so severe as to be life-threatening, and at a minimum, seriously affect the quality of life of terminal cancer patients.

The miniprogram involves collaboration among Dr. Coop (chemist), Dr. Wang (pharmacologist), and Dr. Eddington (expert in drug transport) to better understand opioid-induced constipation and how this relates to the design of drugs that induce less constipation. Participants in this miniprogram will receive training and mentorship in their primary area of interest (chemistry, pharmacology, or drug transport) and education in the fundamental principles behind the design of experiments. The students will perform their own experimental research project.

This work will introduce students to the multidisciplinary nature of the project through interactions with other participants in the program and other members of the principal investigator's laboratories. Weekly group meetings and journal clubs will underscore the multidisciplinary nature of research and how each project contributes to the overall goal of improving the quality of life for patients treated chronically with opiates. For further information on the School of Pharmacy and the faculty members involved in this project, please see http://www.pharmacy.umaryland.edu/faculty/acoop/.

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Investigator:	Josephine Johns, Ph.D.
Institution:	University of North Carolina at Chapel Hill, Chapel Hill, North Carolina
Research Area:	Drug Abuse, Maternal Behavior, Aggression, and Offspring Development in Rodents
Project Title:	Cocaine and Maternal Behavior and Aggression
Start Date, Program Length:	June 5, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking high school and undergraduate students who are not afraid of rats; excellent if students have some knowledge of biology

This program will involve two projects: (1) one will look at changes in production of oxytocin by offspring prenatally exposed to cocaine; (2) the other will look at sensory and social capabilities of prenatally exposed offspring and cocaine-treated dams to determine why mothers prefer certain pups over others. Working with rodents, students will engage in behavioral or molecular biological work.

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Investigators:	Paul Vezina, Ph.D.; Daniel McGehee, Ph.D.
Institution:	University of Chicago, Chicago, Illinois
Research Area:	Behavioral Neuroscience
Project Title:	Consequences of Exposure to Stimulant Drugs
Start Date, Program Length:	June 15, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Undergraduate students

Opportunities to gain experience in drug abuse research are available in a multidisciplinary setting at the University of Chicago. Up to four students will have the opportunity to work with graduate students, postdoctoral fellows, and principal investigators in laboratories studying various aspects of drug abuse.

Aspects of research include—

- Study of the subjective effects of drugs in humans
- Assessment of the neurobiological, biochemical, and pharmacological effects of drugs in animals
- Development and use of mouse genetic models to study drug effects
- Electrophysiological and molecular biological characterization of the effects of drugs on the brain

Opportunities will include hands-on training in different laboratory techniques, data collection and analysis, and library research. Students will have the opportunity to attend and participate in laboratory meetings and joint meetings of the various laboratories where research findings will be presented. Students may also participate in the activities of other summer research programs at the University of Chicago.

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Investigator:	Elizabeth Eipper, Ph.D.
Institution:	University of Connecticut Health Center, Farmington, Connecticut
Research Area:	Neuropeptides
Project Title:	GDT/GTP Exchange Factors: Nucleus Accubens Plasticity
Start Date, Program Length:	June 15, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with a background in basic biochemistry or cell biology

This project uses primary cultures of striatal neurons prepared from newborn rat pups to understand how the dopamine-signaling pathways communicate with proteins known to affect the organization of dendrites and their synapses with excitatory inputs (dendritic spines). There is a focus on one particular regulator of neuronal morphology, Kalirin, a large protein with many different functional domains. This study prepares antisera and generates expression vectors, and then uses microscopic methods and biochemical methods to ask how the ability of striatal neurons to make dendrites and spines is regulated.

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Investigator:	Rob Philbert, M.D., Ph.D.
Institution:	University of Iowa, Iowa City, Iowa
Research Area:	Genetics
Project Title:	Genetic Studies of Substance Abuse in Iowa
Start Date, Program Length:	June 1, 2005 — 8–10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with a strong interest in molecular biology or psychology

This laboratory conducts basic, translational, and clinical studies of neuropsychiatric illness, especially substance use disorders. At this site, there are opportunities for students to participate in all aspects of these studies, ranging from genotyping using the latest state-of-the-art equipment to interviews of subjects.

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Investigator:	Vivian Hook, Ph.D.
Institution:	University of California, San Diego, La Jolla, California
Research Area:	Opioid Peptides, Proteomic Mechanisms in Morphine Action
Project Title:	Synthesis of Endogenous Opioid Peptides, Proteomics of Morphine Actions
Start Date, Program Length:	Between May 23 and June 15, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with a major in one of the following subjects: chemistry, biochemistry, molecular and cell biology, pharmacology

Students may work on one of two projects described below:

Brain Opioid Peptides for Pain Relief: The goal of this project is to understand the mechanisms in the brain that synthesize endogenous opioid peptides that produce natural pain relief. The project will analyze enzymatic conversion of protein precursors into the smaller, active opioid peptides. Regulation of production of brain opioid peptides will be studied to understand how natural opioids relieve pain.

Mechanism of Action of Morphine by Proteomic and Genomic Approaches: The goal of this project is to define the protein components regulated by morphine as a means to understanding how morphine induces pain relief. The project uses state-of-the-art technology in proteomics for protein expression and genomics for gene expression as well as computer-based evaluation of data.

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Investigator:	Theodore C. Friedman, M.D., Ph.D.
Institution:	Charles R. Drew University, Los Angeles, California
Research Area:	Opiates and Nicotine
Project Title:	Addiction Parameter and Opiate Biosynthesis in PCR Knockout Mice
Start Date, Program Length:	May 23, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with molecular biology skills, animal handling skills, and computer (Excel, Word, and PowerPoint) skills

Drug addiction is a state of altered systems of brain reward and self-regulation in which both neurotransmitter and hormonal systems are affected. This study hypothesizes that altered neurohormonal levels in addiction are mediated by changes in the processing enzymes that control the ratio of active hormone to prohormone. For example, an individual with low levels of opiate biosynthesis may seek exogenous opioids in an effort to restore homeostasis.

Two prohormone convertases, PC1 and PC2, are believed to be responsible for the biosynthesis of many neurohormones, with PC1 generating ACTH and PC2 generating the endogenous opiates, b-endorphin, dynor-

phin, and enkephalin. Thus, PC2 knockout mice, with impaired or absent biosynthesis of the three important edogenous opioids, represent an ideal model to study both the role of endogenous opioids and the regulation of opioid biosynthesis in various aspects of the opioid addiction process.

Extensive studies of the effects of exogenous morphine on brain and pituitary PC1 and PC2 expression have found that acute morphine down-regulates, while chronic morphine up-regulates PC1/PC2 in a manner highly dependent on the CAMP/CREB/CRE system. These exciting studies, which examine the consequences of opiate exposure, demonstrate a strong interplay between opiates and the prohormone convertases. However, definitive studies implicating PC1/PC2 in the addiction and addiction-related processes (dependence and tolerance) have not been completed.

Preliminary data have found that morphine injection produces a greater antinociceptive effect in the hotplate assay in PC2 knockout mice compared to wildtype littermates, implicating prohormone processing in modulation of the morphine response. To understand the relationship between the regulation of opioid biosynthesis and opiate addiction, the project will have a number of specific aims.

Investigator: Joe Martinez, Ph.D.
Institution: University of Texas at San Antonio, San Antonio, Texas
Research Area: Neuroscience
Project Title: Gene Expression Changes in the Brain Using an Animal Model
Start Date, Program Length: June 6, 2005 — 10 weeks
Housing Available: Yes
Student Attributes: Seeking undergraduate students with a major in biology and some neurobiology coursework

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This study focuses on neurobiology of learning and memory, using whole animals in vitro and in vivo electrophysiology. The study will also involve molecular analysis at the level of transcription using DNA microarrays.

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Investigators:	Phyllis C. Pugh, Ph.D.; Elizabeth I. Tietz, Ph.D.; and Joseph Margiotta, Ph.D.
Institution:	Medical College of Ohio, Toledo, Ohio
Research Area:	Neuroscience
Project Title:	Nicotinic Acetylcholine Receptors and Neuronal Development
Start Date, Program Length:	May 31, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with an interest in basic neuroscience research and a major in biology or chemistry; some coursework or hands-on experience in neuroscience, molecular biology, or cell biology is a plus

Students can engage in research with one of the three labs outlined below, with the added benefit of interfacing with the preexisting SURF (Summer Undergraduate Research Fellowship) program at the Medical College of Ohio. This opportunity will enable students to participate in ongoing research training, weekly meetings, and seminars.

Pugh Lab: Drugs cause their effects by mimicking some substance that naturally occurs in the body or by interfering with some naturally occurring process. Nicotine, as consumed through tobacco use, acts in the former manner; that is, by mimicking a naturally occurring substance in the body. That substance is the chemical neurotransmitter acetylcholine (ACh). For anything to act within the body, it needs a mechanism through which to "talk" to the inside of cells, and this is known as a receptor.

Nicotinic ACh receptors (nAChRs) are expressed throughout the development of the embryo. So, elucidating the developmental effects of nicotine on these receptors is key to understanding the adverse effects of maternal smoking. This lab builds upon the earlier studies and analyzes the developmental role(s) of the receptors in vivo. A student engaging in research in this lab might choose to work on the mutagenesis of the receptor subunits or on the analysis of the structural changes resulting from the altered receptor expression.

Margiotta Lab: This lab studies nicotinic receptors and synapses, which are both found throughout the central and peripheral nervous systems and are targets for nicotine present in cigarette smoke. Such studies are significant at both basic and applied levels. Using a battery of basic laboratory approaches (electrophysiology, biochemistry, molecular biology, cell imaging), the lab strives to understand how these receptors work and how nicotine synapses form. A good grasp of basic concepts in the physical and/or life sciences is involved.

Tietz Lab: This lab focuses on the use-dependent plasticity that occurs at specific synapses; that is, specialized sites of cell-cell interaction in the brain, following long-term treatment with benzodiazepines (BZs, prototype, Valium). BZs are antiepileptic drugs that are used widely as antianxiety agents and for insomnia. BZs enhance the action of the main receptor in the brain responsible for dampening or inhibiting function, the GABA receptor (GABAR). Long-term treatment with BZs results in a reduction of their anticonvulsant effectiveness (tolerance) as well as withdrawal signs, such as anxiety-like behavior, which may underlie dependence on BZs. This lab uses electrophysiological recording methods, in slices from a specialized, very plastic part of the brain (the hippocampus), to investigate the functional (central nervous system-related) bases for BZ tolerance and dependence.

Investigator: Stephen T. Higgins, Ph.D.
Institution: University of Vermont, Burlington, Vermont
Research Area: Behavior and Pharmacology
Project Title: Modeling Initial Smoking Abstinence
Start Date, Program Length: June 1, 2005 — 8 weeks
Housing Available: Yes
Student Attributes: Seeking undergraduate students with an interest in future graduate coursework and research in drug abuse, psychology, pharmacology, statistics, etc.

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Human Behavior Pharmacology Training is a research unit of the Department of Psychiatry that studies environmental and pharmacological factors that influence drug abuse and diverse new treatments for drug abuse. The research spans alcohol, amphetamines, benzodiazepines, cannabinoids, caffeine, cocaine, nicotine, and opioids. This includes both clinical research on behavioral and pharmacological treatments for cocaine, nicotine, opiate, alcohol, and marijuana dependence, and human laboratory research on behavioral effects of abused drugs.

Investigator: Steven Childers, Ph.D.
Institution: Wake Forest University School of Medicine, Winston-Salem, North Carolina
Research Area: Neuropharmacology
Project Title: Center for the Neurobiological Investigation of Drug Abuse
Start Date, Program Length: May 15, 2005 — 10 weeks
Housing Available: Yes
Student Attributes: Seeking high school and undergraduate students with majors in psychology, neuroscience, biochemistry, or pharmacology

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The Center for the Neurobiological Investigation of Drug Abuse (CNIDA) at Wake Forest University School of Medicine was established in 1991; it focuses on the basic neurobiological mechanisms of addiction. The Center's projects are diverse, but research encompasses a general theme to examine the neural adaptations that occur in the brain as a result of drug use, and that mediate the transition from drug use to drug addiction. These projects utilized several animal models (including rodent and nonhuman primate) and technologies uniquely developed by the Center's investigators.

Laboratory research includes behavior in self-administering animals, molecular biology, receptor pharmacology, in vitro and in vivo imaging (including PET imaging), and electrophysiological measures of neuronal function. Twenty-three faculty and research associates participate directly in the Center's research across different departments, including the Departments of Physiology/Pharmacology, Neurobiology, Neurosurgery, and Radiology at Wake Forest University School of Medicine. The Center provides research training and serves as a resource for the neurobiology of drug abuse to the scientific and lay communities.

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Investigator:	Nancy Zahniser, Ph.D.
Institution:	University of Colorado Health Sciences Center, Aurora, Colorado
Research Area:	Neuropharmacology
Project Title:	Minority Summer Student Research Program
Start Date, Program Length:	June 1, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate sophomores, juniors, or seniors in college with a 3.0 cumulative GPA in science courses (chemistry/biology)

The University of Colorado Health Sciences Center has maintained a minority student summer research program on alcohol and drug abuse for the past 15 years. Students have gained research training in a variety of disciplines related to drug abuse, including neuroscience, genetics, molecular biology, protein structure, bioinformatics, and pharmacology.

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Investigator:	Sherry Dingman, Ph.D.
Institution:	Marist College, Poughkeepsie, New York
Research Area:	Developmental Neurobiology
Project Title:	Magnetic Resonance (MR) Tools for Investigating Developmental Neurobiology
Start Date, Program Length:	June 17, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students who enjoy working in a laboratory setting. Students should be keen about literature searches for methods and procedures, designing studies, executing studies, and analyzing results, etc; students are often given the opportunity to present results at one or more national meetings

Understanding how genetic factors interact with environmental factors during brain development is crucial to unraveling the etiology of addiction. The long-term objective of this research project is to develop powerful new tools for investigating how early environmental factors, such as perinatal stress or exposure to drugs, contribute to creating individual differences in biological susceptibility to addiction and other disorders.

Ultimately, the project aims to use perfluorinated neurotransmitters as imaging agents for studying the epigenesis of neural pathways and magnetic resonance imaging (MRI). This project will investigate perfluorinated L-DOPA and determine the best isomer of F-L-DOPA for use in vivo. The students will work on projects including (1) conducting immunoassay screens to characterize the uptake and bioavailability of the F-L-DOPA in vivo, using in ova Gallus domestics; and (2) using crayfish as model organisms for exploring receptor characteristics of the F-L-DOPA, and assisting in the development of MRI protocols for use of the best perfluoroalkyl-tag isomers.

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Investigator:	T. S. Benedict Yen, M.D., Ph.D.
Institution:	University of San Francisco, San Francisco, California
Research Area:	Hepatitis Viruses
Project Title:	Role of Host Proteins in the Life Cycle of Hepatitis B and C Viruses
Start Date, Program Length:	June 20, 2005 — 9 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students with at least a B in AP biology

This program will provide bench research experience for high school or college students interested in a career in the biomedical sciences. The students will learn some basic techniques of molecular and cell biology, including how to grow bacteria, purify and manipulate recombinant DNA, and use antibodies to localize specific proteins in cells and tissues.

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Investigators:	Rita Valentino, Ph.D.; Elizabeth Van Backstaele, Ph.D.
Institution:	The Children's Hospital of Pennsylvania, Philadelphia, Pennsylvania
Research Area:	Stress Neurobiology, Neuroanatomical Substrates
Project Title:	Opiate Stress
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students with an interest in systems neuroscience and/or behavior

This laboratory conducts basic research designed to understand the neurobiology of the stress response and how opiate use or drug abuse may interact with stress. The study uses the rat as a model. A variety of techniques are used, such as (1) electrophysiology (activity from rat brain neurons is recorded); (2) neuroanatomy (tract tracing and immunohistochemistry) used to map out brain circuits; and (3) molecular approaches (PCR) to understand how chronic stress may lead to changes in cellular gene expression. Please visit http://stokes.chop.edu/web/neuro.

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Investigator:	Iris Lindberg, Ph.D.
Institution:	Louisiana State University, New Orleans, Louisiana
Research Area:	Opioid Peptides
Project Title:	Opioids Peptide Synthesizing Enzymes
Start Date, Program Length:	End of May 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with an interest in biochemistry, cell biology, and/or molecular biology (i.e., biology or chemistry majors); preference will be given to students who have already taken basic biology and received at least a B

Biologically active neuropeptide transmitters such as enkephalins and endorphins are synthesized from large inactive precursors through the action of very specific proteolytic enzymes. The project uses several different approaches to its studies of neuropeptide biosynthesis, ranging from analysis of purified proteins to cell biology to whole animal work. Generally, short summer projects will consist of making a gene construct, expressing it in neuroendocrine cells, and analyzing the effects. Other possible projects consist of screening combinatorial libraries for enzyme inhibitors or characterizing overexpressed peptide-synthesizing enzymes. For more information on the work in this lab, please visit http://www.medschool.lsuhsc.edu/biochemistry/lab_lindberg.asp.

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Investigator:	Thomas Scott Marzilli, Ph.D.
Institution:	University of West Florida, Pensacola, Florida
Research Area:	Psychomotor Skills/Nicotine
Project Title:	The Influence of Nicotine on Reaction Time
Start Date, Program Length:	May 23, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	High school and undergraduate students

A new multimillion-dollar building will be the site of this research that examines the effects of nicotine and smoking on skilled performance. The students will help with subject recruitment, data collection, and all other aspects pertaining to the grant. Students will be treated as part of the research team.

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Investigator:	Andrea G. Hohmann, Ph.D.
Institution:	University of Georgia, Athens, Georgia
Research Area:	Pain Mechanisms
Project Title:	Cannabinoid Mechanisms of Pain Suppression
Start Date, Program Length:	June 1, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with interests in medicine and chemistry; must have a willingness to work with rodent subjects; attention to detail is important in this research

Dr. Hohmann's laboratory studies mechanisms for suppressing pain from behavioral, neural, chemical, and anatomical perspectives. The work uses rat subjects to study mechanisms that the nervous system uses to generate and dampen pain. Research involves behavioral and basic laboratory work and requires motivated, detail-oriented students with interest in the life sciences. The research specifically focuses on the role of cannabinoids (the body's own marijuana-like compounds) in suppressing pain.

The laboratory is particularly interested in identifying the environmental conditions under which the body's own marijuana-like system is active. To address the underlying mechanisms, the research has identified the locations of cannabinoid receptors in primary pain pathways using anatomical techniques. The research is especially focused on studying how this system can be activated to treat chronic pain, a problem that affects one in three adults in the United States. Chronic pain is not treated effectively by existing therapies. This research targets cannabinoids to sites of action outside the brain to suppress persistent pain in the absence of unwanted side effects (such as altered mental status or "marijuana high").

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Investigator:	Mohan Sopori, Ph.D.
Institution:	Lovelace Respiratory Research Institute, Albuquerque, New Mexico
Research Area:	Neuroimmunology
Project Title:	Role of Nicotinic Acetylcholine Receptors in Neuroimmune Communication
Start Date, Program Length:	May 15, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking high school students with an interest in biology and chemistry; should have excellent academic standing in these subjects

While the prevalence of diseases such as lunger cancer, heart disease, and pathogenic infections is much higher in cigarette smokers, some inflammatory diseases (e.g., ulcerative colitis, sarcoidosis, endometriosis) are less common among smokers than in nonsmokers. Our laboratory has shown that nicotine is immunosuppressive and an anti-inflammatory; however, nicotine may not uniformly affect all inflammatory conditions. Thus, while ulcerative colitis is rarely seen in smokers, the incidence of another inflammatory bowel

disease (i.e., Crohn's disease) is much higher among smokers.

Using mouse models of ulcerative colitis and Crohn's disease, we plan to demonstrate that nicotine preferentially suppresses ulcerative colitis and exacerbates Crohn's disease. These effects, we hypothesize, result from the inhibition of Th-2 and not Th-1 responses by nicotine. Therefore, in addition to the above in vivo experiments, using human Jurkat cell cultures and appropriate expression vectors, we will determine whether nicotine treatment preferentially affects the expression of Th-2 genes. These experiments, we believe, will explain the differential sensitivity of smokers to different inflammatory bowel diseases.

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Investigator:	Desmond J. Smith, M.D., Ph.D.
Institution:	University of California, Los Angeles, Los Angeles, California
Research Area:	Neurogenomics
Project Title:	Functional Neurogenomics and Drug Addiction
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students with interest/skills in life, natural, or physical sciences

This study involves developing experimental tools to extract biological meaning from the flood of information being produced by the genome projects and to understand the genetic mechanisms of drug addiction. One major effort is devoted toward creating comprehensive atlases of gene and protein expression in the mammalian brain. Other projects are aimed towards identifying behavioral genes in the mouse and dissecting regulatory networks in mammalian cells. Since this research involves experimental and computational genomics, interests and skills in the life, natural, or physical sciences would be appropriate.

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Investigator:	Richard H. Melloni, Jr., Ph.D.
Institution:	Northeastern University, Boston, Massachusetts
Research Area:	Behavioral Neuroscience
Project Title:	Adolescent Drug Abuse and the Neurobiology of Aggression
Start Date, Program Length:	June 15, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students majoring in biology, chemistry, behavioral neuroscience, psychobiology, or psychology with some laboratory experience (preferred but not required); students should have an interest in understanding how drugs affect the function of the brain

Adolescent drug abuse use has been linked to an increase in aggressive and violent behavior. The brain chemicals serotonin and vasopressin have been shown to control aggression in animal models. Studies show that vasopressin stimulates aggression that is normally inhibited by serotonin. One of the goals of this research is to investigate the effects of adolescent drug abuse on the brain's neural systems controlling aggres-

sion. It is hypothesized that adolescent drug abuse increases aggression by disrupting the brain's normal balance between the vasopressin and serotonin neural systems.

To test this, we will examine the neurobiology of these neural systems in animals stimulated to respond aggressively by adolescent drug treatment. Completion of this research should provide new insight into the biological control of drug-induced aggression. This knowledge will help identify time periods that are especially sensitive to drugs of abuse and to document the brain changes that may make individuals behave in a violent manner.

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Investigator:	Kathryn A. Cunningham, Ph.D.
Institution:	University of Texas Medical Branch, Galveston, Texas
Research Area:	Neurobiology of Psychostimulants
Project Title:	Neuropsychopharmacology of MDMA: Monoaminergic Mechanisms
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with interest in neuroscience, psychology, pharmacology, or behavioral science

The project goals are to uncover the mechanisms underlying drug-seeking behavior to characterize the biomolecular profile of addiction and uncover the path to designing new diagnostic and therapeutic approaches to addiction. The following are some of the questions of interests:

- Is vulnerability to addiction associated with a specific protein profile in rat brain or serum, and can this knowledge be exploited to develop new prevention and diagnostic strategies?
- Is chronic stimulant exposure (cocaine or MDMA ["ecstasy"]) associated with identifiable patterns of protein expression that may predict severity of addiction and help to design individualized treatment protocols?
- What are the roles of dopamine (DA) and serotonin (5-HT) receptors in the expression of molecular and behavioral effects of psychoactive drugs?
- What are the regulatory processes for 5-HT systems in the brain?
- How do dopamine and 5-HT interact?
- How might altered regulation of serotonin systems contribute to psychosis, depression, and other affective disorders?
- What is the role of female steroid hormones in the regulation of neurotransmission?
- How does the steroid-serotonin interrelationship determine the neural response to antidepressants or abused drugs?
- What is the mechanism of action for estrogen to control SERT expression and 5-HT re-uptake?

Interdisciplinary studies will contribute to an understanding of how female reproductive hormones control 5-HT function and its pharmacological responsivity.

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Investigator:	Robert Huber, Ph.D.
Institution:	Bowling Green State University, Bowling Green, Ohio
Research Area:	Neuroscience
Project Title:	Ethopharmacological Characterization of Reward Systems: Drugs of Abuse and Rewarding Properties for Place-Conditioning in Crayfish
Start Date, Program Length:	May 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	High school and undergraduate students

This lab uses crayfish as a novel model system for uncovering the neurobiological factors associated with drug-seeking behavior. In a recent project, the lab has demonstrated that drugs of abuse are associated with rewarding properties for place-conditioning in crayfish. This project aims to develop these initial findings into a robust model for the study of drug-reward with a combination of behavioral and neurochemical approaches. The project will be best suited to students with an appreciation for interdisciplinary work and with interest in a comprehensive understanding of behavior and its proximate causation.

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Investigator:	Amelia J. Eisch, Ph.D.
Institution:	University of Texas Southwestern Medical Center at Dallas, Dallas, Texas
Research Area:	Basic Neuroscience Research
Project Title:	Impact of Drug Abuse on Adult Neurogenesis
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with a major in biology or neuroscience; should be open to working with rats and mice

The Eisch Laboratory in the Department of Psychiatry at University of Texas Southwestern Medical Center provides a scientifically rich and intellectually rigorous atmosphere in which to do basic science research on the impact of drugs of abuse on the adult rat and mouse brain. Using a broad spectrum of approaches—from behavioral analysis of memory function to confocal microscopic analysis of individual brain neurons—the lab uses animal models of drug exposure to identify neuroadaptations in the brain that may contribute to or underlie cognitive deficits seen after chronic morphine or cocaine exposure. Currently, most projects focus on adult neurogenesis—the birth of new neurons in the adult brain—and how it is altered by drug exposure. For more detail on the Eisch Laboratory, please visit our Web site at http://www3.utsouthwestern.edu/eisch/home.html.

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Investigator:	Howard Gu, Ph.D.
Institution:	Ohio State University, Columbus, Ohio
Research Area:	Cocaine Addiction
Project Title:	Mechanism of Cocaine Addiction
Start Date, Program Length:	June 30, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students pursuing a career in life and medical sciences; should have substantial laboratory experience

Neurotransmitters are compounds released by presynaptic neurons to communicate with other neurons and cells. Neurotransmitter transporters (NTTs) terminate neurotransmission by the re-uptake of neurotransmitters from the synaptic cleft and surrounding areas. Dopamine transporter (DAT), serotonin transporter (SERT), and norepinephrine transporter (NET) are high-affinity targets for the psychostimulants cocaine and amphetamines. The transporters are also molecular targets for therapeutic drugs, such as Ritalin (methylphenidate), Tofranil (imipramine), Prozac (fluoxetine), Zoloft (sertraline), Luvox (fluvoxamine), Paxil (paroxetine), and Wellbutrin (bupropion). These drugs are used to treat several neurological and mental disorders, including attention-deficit/hyperactivity disorder, depression, anxiety, autism, obsessive-compulsive disorder, and minimal brain dysfunction. This laboratory focuses on these important transporters and studies their structures and functions and their roles in drug addiction and mental disorders. Students will learn some basic molecular biology techniques and participate in other research activities.

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Investigator:	Susan G. Amara, Ph.D.
Institution:	University of Pittsburgh, Pittsburgh, Pennsylvania
Research Area:	Molecular and Cellular Biology of Neurotransmitter Transporters, Actions of Psychostimulant Drugs of Abuse
Project Title:	Molecular Studies of Catecholamine Transporters
Start Date, Program Length:	May 31, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students entering their junior or senior year with at least a 3.0 GPA

Each summer, the Center for Neuroscience at the University of Pittsburgh (CNUP) sponsors a 10-week program where selected undergraduate students conduct independent research under the guidance of individual CNUP training faculty. Fellows will be provided housing in a double-occupancy, on-campus dormitory. Students will be responsible for their own meals and other incidental expenses.

A subset of the CNUP training faculty studies various aspects of drug addiction and the actions of drugs of abuse on the brain. Work in the various laboratories spans a wide range of questions and approaches aimed at discovering how drugs alter the function of molecules, cells, circuits, pathways, systems, physiology, and behavior. As a result, the methods that a student may undertake as part of a summer research project are

highly diverse and can provide opportunities for gaining experience in molecular biology, neuroanatomy, neurophysiology, brain imaging, neuropsychology, or behavioral assessments. A detailed description of our existing summer program can be found on our Web site: http://cnup.neurobio.pitt.edu/undergraduate.cfm.

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Investigator:	Deborah C. Mash, Ph.D.
Institution:	University of Miami School of Medicine, Miami, Florida
Research Area:	Neurochemistry, Gene Regulation, Toxicology, Postmortem Human Brain
Project Title:	CNS Mechanisms of Cocaine-Related Sudden Death
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with laboratory experience and a major in biology or chemistry

This laboratory uses tracers and/or radiolabelled ligands to characterize receptor and transporter sites and states in postmortem human brain from victims of cocaine-related sudden death. Methods of immunocytochemistry, autoradiography, gene expression profiling, and bioinformatics are also applied to disclose any neurochemical differences between victims of drug use and their normal, aged-matched, drug-free controls.

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Investigator:	Klaus A. Miczek, Ph.D.
Institution:	Tufts University, Medford, Massachusetts
Research Area:	Psychopharmacology
Project Title:	Psychomotor Stimulants and Aggression in Animals
Start Date, Program Length:	May 15, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with an interest in biology, psychobiology, or neuroscience

Through this project, students will learn about several topics, including (1) the method of intravenous self-administration of cocaine and heroin in rodent models, including transgenic mice; (2) oral self-administration of alcohol in rodent and primate models, including transgenic mice; (3) intracranial microinjection of drugs that target specific sites and mechanisms of neurotransmitter action; (4) immediate early gene expression in discrete brain areas that are relevant to drug seeking and taking; and (5) experimental procedures to model social stress that affect drug seeking and taking.

Investigator:	Ronald J. Lukas, Ph.D.
Institution:	Barrow Neurological Institute, Phoenix, Arizona
Research Area:	Neurochemical Signaling
Project Title:	Molecular Bases for Effects of Nicotine
Start Date, Program Length:	May 23, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students pursuing a career in biomedical research or medicine; students should have a strong work ethic

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Basic research is conducted using a multidisciplinary approach to clarify effects of lasting exposure to nicotine on numbers and functions of its targets in the brain and body, nicotinic acetylcholine receptors. Studies encompass in vitro assessments. Refer to http://www.thebarrow.com (see Research, then Neurochemistry) for a description.

Investigator:	Geoffrey Schoenbaum, Ph.D.
Institution:	University of Maryland School of Medicine, Baltimore, Maryland
Research Area:	Behavioral Neurophysiology
Project Title:	Lasting Effects of Cocaine on Corticolimbic Processing
Start Date, Program Length:	May 1, 2004 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with interest in neuroscience, the brain, or drug addiction/learning/behavior; students should be prepared for significant research in the laboratory

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This program will involve assisting a graduate student or postdoc in conducting basic science experiments to look at how exposure to an addictive drug, cocaine, alters normal mechanisms of learning and decisionmaking that depend upon corticolimbic structures. This issue is of interest because cocaine and other addictive drugs cause long-lasting changes in structure in these circuits, which may have fundamental effects on the ability to control behavior, thereby causing the compulsive drug seeking that characterizes addiction.

The experiments will use rats as a model and will involve behavioral, neurosurgical, and neurophysiological techniques, which enable us to monitor the activity of individual neurons processing information in the brains of awake, behaving animals. The goal of this work is to identify information-processing abnormalities that occur as the result of cocaine exposure. Subsequent postmortem work may also be conducted in an attempt to correlate information-processing changes with the structural changes caused by cocaine in each animal.

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Investigators:	Elisabeth Houtsmuller, Ph.D.; Miriam Mintzer, Ph.D.; Eric Strain, M.D.
Institution:	Johns Hopkins University, Baltimore, Maryland
Research Area:	Behavioral Pharmacology
Project Title:	Novel Lapse-Responsive Approach to Smoking Cessation; Effects on Memory Mechanisms; Evaluation of Opioid Antagonists in Humans
Start Date, Program Length:	June 8, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with college coursework in psychology, neuroscience, chemistry, or biology; should have experience with Macintosh systems and Microsoft applications

Students will have an opportunity to engage in research in one of the three labs in the Behavioral Pharmacology Research Unit (BPRU). As part of the Department of Psychiatry at the Johns Hopkins University School of Medicine, BPRU is a research facility that focuses on investigating drugs of abuse. BPRU's emphasis is on the pharmacological and behavioral aspects of substance abuse, including the development of addicitons, withdrawal, tolerance, and treatment. Two related areas of study are abuse liability testing of new medications and behavioral and pharmacological intervention of illicit substance use. These investigations are conducted within controlled laboratory and outpatient clinic settings.

Under the supervision of BPRU staff, student interns will assist in experimental research sessions for residential/nonresidential pharmacological research protocols and perform and assist in data-handling functions required by research protocols. Interns will specifically (1) input, organize, and verify data collected in test sensions; (2) maintain a backup of research data and ensure the security and confidentiality of data; (3) provide graphic representations of research data according to the needs of the investigator or research assistant; (4) participate in BPRU-sponsored services, including education lectures, computer classes, and community events; (5) assist in recruitment of volunteers for outpatient research protocols; and (6) assist in running testing protocols within a laboratory setting.

Investigator:	Shenghan Lai, M.D., Ph.D.
Institution:	Johns Hopkins School of Medicine, Baltimore, Maryland
Research Area:	HIV, Cocaine Abuse, Cardiovascular Complications
Project Title:	HIV, Cocaine, and Regional LV Dysfunction; Subclinical Atherosclerosis in HIV-Positive Black Cocaine Users
Start Date, Program Length:	Flexible — 8 weeks
Housing Available:	No
Student Attributes:	High school and undergraduate students

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Students will engage in research on one of two NIDA-funded studies on site that investigate effects of HIV infection and cocaine abuse on cardiovascular complications (specifically, subclinical athersclerosis without signs and symptoms). These are the only studies in this subject area supported by the National Institutes of Health. The site uses the most advanced CT systems to check out coronary arteries and early-identify coronary stenosis. Students will have an array of research opportunities.

Investigator:	Paul Worley, M.D.
Institution:	Johns Hopkins School of Medicine, Baltimore, Maryland
Research Area:	Molecular and Cellular Biology
Project Title:	Effector Immediate Early Genes (IEGs), Homer, and Drug Addiction
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Undergraduate students

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Paul Worley's laboratory examines the molecular basis of learning and memory. In particular, his laboratory has cloned a set of immediate early genes (IEGs) that are rapidly transcribed in neurons involved in information processing, and that are essential for long-term memory. IEG proteins can directly modify synapses and provide insight into cellular mechanisms that support synapse-specific plasticity. For example, Narp is secreted and induces excitatory synapse formation. Homer catalyzes conformational coupling of multiprotein machines involved in calcium signaling. Rheb regulates mTor (target of rapamycin) and protein translation. Arc induces the formation of endosomes that function in trafficking of glutamate receptors. Thus, rapid de novo transcription provides novel insights into the cellular and neural network basis of behavioral plasticity.

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Investigator:	Adrian Dobs, M.D., M.H.S.
Institution:	Johns Hopkins School of Medicine, Baltimore, Maryland
Research Area:	Endocrinology/HIV
Project Title:	Cognitive Consequences of Endocrine Dysfunction in Intravenous Drug Users
Start Date, Program Length:	June 15, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate biology or premedicine majors who have completed physiology course work; students should have a 3.0 GPA

This study consists of basic laboratory work (hormone measures) and a clinical trial with direct patient contact, including behavior testing of HIV-infected injection drug users. This study is ideal for students with interests in endocrinology or immunology.

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Investigator:	Walter Ling, M.D.
Institution:	University of California, Los Angeles, Los Angeles, California
Research Area:	Substance Abuse
Project Title:	Clinical Trials Network; Pacific Region Node
Start Date, Program Length:	June 15, 2005 — 8–10 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students with interest in psychology, medicine, epidemiology, and statistics

The UCLA Integrated Substance Abuse Programs and the Friends Research Institute offer a wide variety of opportunities for participation in clinical research studies with substance abusers and exposure to scientific design. Data entry/analysis and writing skills are needed when working in a research setting. Students will have the opportunity to participate in various projects, ranging from pharmacotherapy for opiate dependence to behavioral treatments for abuse of many other substances, including cocaine, methamphetamine, and nicotine. There are also HIV/AIDS-related projects.

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Investigator:	Emmalee S. Bandstra, M.D.
Institution:	University of Miami School of Medicine, Miami, Florida
Research Area:	Impact of Prenatal Exposure to Cocaine and Other Drugs on the Developing Child and Adolescent
Project Title:	Brain MRI/MRSI in Children Exposed in Utero to Cocaine
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students interested in neurosciences, psychology, or premedicine (especially radiology, pediatrics, adolescent medicine)

This is a neuroimaging technological development project using cranial magnetic resonance imaging, magnetic resonance spectroscopic imaging, and diffusion tensor imaging to detect differences in brain structure, chemistry, and neural connectivity between prenatally cocaine-exposed and noncocaine-exposed preadolescent children, aged 12 years. This neuroimaging project draws its subjects from a NIDA-funded longitudinal investigation of the neuropsychological effects of prenatal cocaine exposure on the developing infant, child, and adolescent; the neuroimaging data will be correlated with relevant clinical findings. The student will learn about the application of various forms of neuroimaging to the study of the effects of prenatal drug exposure on the developing preadolescent and will assist with various aspects of the neuroimaging assessments and analysis of the data. The student will also assist with literature reviews and retrieval of internet and library resources for publication purposes.

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Investigator:	Karol Kaltenbach, Ph.D.
Institution:	Jefferson Medical College Thomas Jefferson University, Philadelphia, Pennsylvania
Research Area:	Pregnant Substance-Abusing Women and Outcome of Their Infants
Project Title:	Maternal Opioid Treatment: Human Experimental Research (MOTHER)
Start Date, Program Length:	June 6, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students interested in behavioral science or premedicine and clinical research; should have good computer/data analysis skills

This program specializes in the treatment of pregnant, opioid-dependent women and their children. There are two treatment programs: a long-term residential program for 20 women and children and an intensive outpatient treatment program for 170 women and children. Both programs provide comprehensive treatment, including individual and group therapy, psychiatry services, pharmacotherapy for opioid dependence, prenatal care, HIV counseling and testing, case management, health education, and parent-child services, including development child care, parent support, and parent education groups.

The current research is part of a multisite, double-blind, randomized, controlled trial comparing methadone and buprenorphine for the treatment of pregnant, opioid-dependent women and neonatal abstinence in their neonates. This would be an excellent placement for students with an interest in clinical research in pharmacology, psychology, social work, substance abuse treatment for women, pediatrics, psychiatry, and/or obstetrics.

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Investigator:	Steven Shoptaw, Ph.D.
Institution:	University of California, Los Angeles, Los Angeles, California
Research Area:	Medication Development, Behavioral Epidemiology
Project Title:	UCLA Medication Development Unit for Stimulant Abuse; HIV/STD Risk Behaviors in Methamphetamine User Networks; Clinical Trials Network; Pacific Region Node
Start Date, Program Length:	June 6, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking high school and undergraduate students with a strong interest in behavioral or medical science; strong writing skills are important

The UCLA Integrated Substance Abuse Program provides NIH internship opportunities for interested students in two general areas: (1) medication development for methamphetamine abuse; and (2) behavioral epidemiology in the transmission of HIV via sexual behaviors among drug users. Under the direction of Dr. Steven Shoptaw, interns will attend a weekly seminar on a wide range of topics on drug abuse and will be placed with ongoing studies on medication development or behavioral epidemiology.

Medication development placements include the general clinical research center at UCLA and an outpatient drug abuse treatment program in Rancho Cucamonga, California. Behavior epidemiology placement is both in the field (Hollywood area of Los Angeles) and on campus. Interns will be placed with at least one writing team and will have the opportunity for authorship, depending upon level of involvement. Interns interested in outpatient drug abuse treatment research must have access to and from the clinic (located 45 miles east of UCLA) since Los Angeles has poor public transportation.

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Investigator:	John R. Knight, M.D.
Institution:	Harvard Medical School (Children's Hospital, Boston), Boston, Massachusetts
Research Area:	Adolescent Substance Abuse Screening and Intervention
Project Title:	Medical Office Intervention for Adolescent Substance Abuse; Screening and Brief Advice To Reduce Teen Drug Use
Start Date, Program Length:	June 1, 2005 — 10 Weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students pursuing a health profession (e.g., medicine, nursing, public health, or psychology) degree. Students should be self-directed, motivated, personable, and interested in working with adolescents (aged 12–18)

The summer research experience at the Center for Adolescent Substance Abuse Research (CeASAR) at Children's Hospital, Boston, will include attendance at research team meetings, assembly of study packets (consent forms, questionnaires), administration of questionnaires and interviews with 12–18-year-old patients, data entry, and other assignments in patient-oriented research.

CeASAR's goal is to develop a complete set of evidence-based guidelines on screening, assessment, and intervention for substance abuse that can be applied to adolescent medical patients. Current studies include (1) a randomized controlled trial of a new behavioral intervention (motivational interviewing) for substance abuse among outpatients at the Adolescent Substance Abuse Program at Children's Hospital Boston; and (2) a trial of substance abuse screening in a brief, provider advice network of primary care sites throughout New England. CeASAR is developing state-of-the-art computerized screening and assessment programs for use in these studies.

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Investigator:	Linda C. Mayes, M.D.
Institution:	Yale University, New Haven, Connecticut
Research Area:	Impact of Prenatal Cocaine Exposure on Children's Attention and Emotional Regulatory Capacities
Project Title:	Arousal and Attention in Cocaine-Exposed Children
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate (psychology or neuroscience major) students with interest in studies of children and child development

This laboratory is engaged in a longitudinal study of a cohort of prenatally cocaine-exposed children, the oldest now being 12 years of age. The children are seen twice a year for detailed behavioral, neuropsychologi-

cal, and neurophysiological studies. Students interning in our laboratory have the opportunity to learn about neuropsychological testing, the neurophysiology of the acoustic startle response, and event-related potential using a new method based on high-density event-related potential techniques. Students are also exposed to basic database management and data analysis techniques. Past summer interns have been able to work on manuscripts and posters for national meetings.

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Investigator:	James W. Cornish, M.D.
Institution:	University of Pennsylvania, Philadelphia, Pennsylvania
Research Area:	Psychiatry
Project Title:	Minority Summer Internship Program
Start Date, Program Length:	June 6, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with interest in the sciences, optimally the behavioral sciences

As a current NIDA grantee, this study provides research placements for participating students. The program will be a 10-week, 40-hours-per-week placement, supervised by a principal investigator and a designated program director. The program will consist of—

- Formal coursework: Psychiatry 105 coursework (didactics); diagnosis and treatment of substance abuse; MCAT and GRE training classes (optional)
- Participation in meetings; weekly speaker sessions, hosted by various investigators from the field
- Data collection and data analysis; active research study preparation, including CRF work and assessments (may include patient contact)
- Laboratory experience/experiments, including animal research
- Library research
- Group activities, including mentor meetings
- Final oral presentations

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Investigator:	James C. Anthony, Ph.D.
Institution:	Michigan State University, East Lansing, Michigan
Research Area:	Epidemiology and Prevention
Project Title:	NIDA Summer Program on Drug Dependence Epidemiology, Services, and Prevention Research
Start Date, Program Length:	June 27, 2005 — 8 weeks
Housing Available:	Yes
Student Attributes:	Junior/senior high school students and freshman/sophomore undergraduate students

This research program is focused on epidemiology, services (early outreach), and prevention research. Students are invited to join as research apprentices in important public health research on ways to understand the drug experiences and drug problems of young people, to reach out and help young people who

have started to experience drug problems, and to help prevent the occurrence of these drug problems or to reduce the risk of these drug problems. The aim is to help prepare high school seniors and undergraduates for research careers in epidemiological and public health research.

Students will be prepared specifically for biomedical research careers with a particular focus on youthful drug experiences and drug problems that can lead to serious drug dependence. The program will teach mastery of concepts, principles, and methods of epidemiology and biostatistics as applied to these biomedical problems. The program also teaches mastery in the use of internet and online epidemiological surveillance and intervention research tools such as our own Longitudinal Surveillance Engine (LSE). The LSE is programmable by high school students and undergraduates working under the supervision of our training program faculty members and near-peer mentors selected from among our graduate students and postdoctoral fellows.

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Investigator:	Lynn Singer, Ph.D.
Institution:	Case Western Reserve University, Cleveland, Ohio
Research Area:	Behavioral Teratology
Project Title:	Cocaine-Exposed Children at School
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking undergraduate students with a major in psychology, medicine, or one of the behavioral sciences

This longitudinal study of prenatal cocaine exposure is currently in its tenth consecutive year. The focus of the study is on cognitive and emotional outcomes of prenatally cocaine/polydrug–exposed children and the environmental correlates that contribute to the outcomes, either positively or negatively. During the summer of 2005, the study will be completing a 9- and 10-year assessment battery and preparing for the 11-year assessment phase. All summer research interns will be involved in a number of research activities, including observations of child and caregiver assessments, attending weekly talks by coinvestigators, completing assigned reading on relevant topics, and working directly with a mentor on an individual research topic. The summer will end with a formal presentation of research to the research group.

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Investigator:	Jane Liebschutz, M.D., M.P.H.
Institution:	Boston University Medical Center, Boston, Massachusetts
Research Area:	Trauma, Prescription Drug Abuse, Pain
Project Title:	Co-Occurring Chronic Pain, Trauma, and Substance Abuse in Primary Care Setting
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Undergraduate students

Boston University Medical Center is located in the historic South End of Boston. The center has a sister relationship with Boston Medical Center, serving Boston's indigent population. The principal investigator is in the

first year of a 5-year grant to look at patients in the primary care setting. Patients who screen for chronic pain will be interviewed. The study is examining patients with chronic pain who may also have a history of trauma experiences and who abuse drugs. Of those who misuse drugs, the study is particularly interested in learning about those who abuse prescription drugs. This is the first stage of a three-stage study, and it involves interviewing 600 patients by administering instruments. The goal is to develop a better plan for doctors who treat patients with multiple problems, such as substance abuse, chronic pain, and psychological trauma. Students will conduct interviews on drug and alcohol abuse, post-traumatic stress disorder, depression, panic and anxiety, severe pain, and quality of life. They will work with a team of researchers and conduct in-depth interviews on these sensitive topics.

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Investigator:	F. Joseph McClernon, Ph.D.
Institution:	Duke University Medical Center, Durham, North Carolina
Research Area:	Clinical Neuroscience
Project Title:	Using Neuroimaging To Understand Drug Addiction
Start Date, Program Length:	June 6, 2005 — 10 weeks
Housing Available:	Yes
Student Attributes:	Seeking high school and undergraduate students with interest in neuroscience and psychology; a solid background in mathematics also preferred

Are you interested in doing research exploring the effects of drug addiction on the brain? At the Tobacco Neuroscience Research Laboratory at Duke University Medical Center, we are using brain imaging techniques (fMRI) to research the effects of quitting smoking on brain functioning and smokers' reactions to drug cues. This research is important for understanding addiction and developing new ways to help people quit smoking. Summer students will learn about brain imaging research, assist with human data collection, and help with data processing and analysis. Candidates for our program must enjoy working with people and have excellent computer skills. An interest in the brain and/or neuroscience is required! We are a young and enthusiastic research team, and we look forward to working with you. For more information, call Dr. Joe McClernon at 919-668-3987 or visit www.duke.edu/~fjm3.

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Investigator:	Adeel A. Butt, M.D.
Institution:	University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania
Research Area:	Hepatitis C and Hepatitis C/HIV Co-Infection
Project Title:	Treatment Disparities/Outcomes in HCV/HIV Co-Infection
Start Date, Program Length:	June 1, 2005 — 10 weeks
Housing Available:	No
Student Attributes:	Seeking undergraduate students with a basic knowledge of computer applications and data entry

The students will be expected to participate in submission of study materials to the Institutional Review Board (IRB), recruitment of subjects to clinical studies, and data entry into computerized databases. Prior to such activities, the students will be required to complete training modules in human subject research (help and supervision will be provided), and meet all local IRB requirements to take part in human subject research. At the end of the program, students will have learned the IRB requirements and policies and procedures for human subject research through hands-on training and experience. The students will also learn to work with a diverse group of human subjects and to interact with them in the context of clinical research studies. Based on the students' prior education and experience, they may also be involved in data analysis and learn basic statistical considerations in clinical studies.

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